Phoenix Capitol Cap

Less than ten years ago practically all bottles were sealed with corks . . . there were no standard continuous thread bottle closures. Since the development of the Phoenix Capitol Cap it is now the exception when a recognized product is not sealed with a threaded closure.

PHOENIX-HERMETIC COMPANY, CHICAGO and NEW YORK

School of Pharmacy
University of Md

THE DRUG AND COSMETIC INDUSTRY

ESTABLISHED 1914

Formerly Called "DRUG MARKETS"

February, 1932

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D&O
ESTABLISHED IN 1798

ESSENTIAL OILS
and Kindred Products

OIL LEMON CALIFORNIA

As distributors for the California Fruit Growers Exchange, we are authorized to make an exceptionally advantageous offer.

We are prepared to ship promptly or enter contracts for requirements on basis of present very low ruling prices WITH A GENEROUS BONUS TO BUYERS.

Act quickly as this offer is subject to withdrawal without advance notice.

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180 Varick Street New York City

"The integrity of the house is reflected in the quality of its products."
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Buyers' Guide

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AROMATIC CHEMICALS

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P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Schering Corporation
Ungerer & Co.
van Ameringen-Haebler, Inc.

BEESWAX

Theodor Leonhard Wax Co., Inc.
Will & Baumer Candle Co., Inc.

BIOLOGICAL CHEMICALS

Wilson Laboratories

BORAX

American Potash & Chemical Corp.

COD LIVER OIL

P. R. Dreyer Inc.
Chas. L. Huisking & Co.
Norwegian Cod-Liver Oil Association

COLORS

Interstate Color Co., Inc.

CRUDE DRUGS

Bamberger, Bloch & Landesman, Inc.
J. L. Hopkins & Co.
S. B. Penick & Company

DENTIFRICE BASES

Iliff-Bruff Chemical Co.
Industrial Chemical Sales Co., Inc.
John & E. Sturge, Ltd.

ESSENTIAL OILS

W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Plaimar, Ltd.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

FLAVORING MATERIALS

W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Magnus, Mabee & Reynard, Inc.
Ungerer & Co.
van Ameringen-Haebler, Inc.

GELATINES

Coignet Gelatines

GLYCERIN

Colgate-Palmolive-Peet Co.
Will & Baumer Candle Co., Inc.

MEDICINAL CHEMICALS

Abbott Laboratories
Benzol Products Co.
Citro Chemical Co.
Dow Chemical Co.
Heyden Chemical Corp.
Chas. L. Huisking & Co.
E. C. Klipstein & Sons, Co., Inc.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
N. Y. Quinine & Chemical Works, Inc.
Chas. Pfizer & Co., Inc.
Röhm & Haas Co., Inc.
Schering Corporation
Swann Corporation

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M. W. Parsons Imports
Schliemann Companies, Inc.

SOAPS

J. L. Hopkins & Co.
S. B. Penick & Co.
John Powell & Co., Inc.

VANILLIN

Fritzsche Bros., Inc.
Givaudan-Delawanna Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Works

CONTAINERS

ADHESIVES

Nat'l. Adhesives Corp.

BOTTLES

Owens-Illinois Glass Co.
Swindell Bros.

COLLAPSIBLE TUBES

Art Tube Co.
National Collapsible Tube Co.
New England Collapsible Tube Co.
White Metal Mfg. Co.
A. H. Wirz, Inc.

GLASSINE PAPER

Riegel Paper Corp.

PACKING MATERIAL

Kimberly-Clark Corp.

VIALS

Kimble Glass Co.

CLOSURES

CORKS

Armstrong Cork Co.

INSIDE THREAD CAPS

Spring Stopper Co.

LINERS

Armstrong Cork Co.

METAL CAPS

Aluminum Seal Co.
Anchor Cap & Closure Corp.
Consolidated Safety Pin Co.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Pennsylvania Glass Products Co.
Phoenix Hermetic Co.

MOLDING COMPOUNDS

Anchor Cap & Closure Corp.
Armstrong Cork Co.
Pennsylvania Glass Products Co.
Resinox Corp.

MACHINERY & EQUIPMENT

FILLING MACHINES

Alsop Engineering Co.
Arthur Colton Co.
F. J. Stokes Machine Co.
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U. S. Bottlers Machinery Co.

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O & J Labeling Machine Co.

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Alsop Engineering Co.
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The Late Percy C. Magnus, Sr.
1861-1916

"An Institution Is The Lengthened Shadow Of One Man"

—Ralph Waldo Emerson

ESSENTIAL OILS
AROMATIC CHEMICALS
BASIC FLAVORING MATERIALS
INFUSED OILS
PERFUME OILS
BALSAMS
OLEORESINS
PARAGON OLIVE OIL
NATURAL ISOLATES
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MOHAWK OIL PEPPERMINT

Emerson wisely said—"All history resolves itself very easily into the biography of a very few earnest persons . . . . . an institution is the lengthened shadow of one man." And so it is.

Magnus, Mabee & Reynard, Inc., is today what it is, because Percy C. Magnus, Sr., founder of this house planned as he did and built as he did.

Upon the bedrock of business integrity he laid his structure.

Using quality products as his bricks and painstaking, prideful service as his cement he fashioned the foundation.

Checking his work as he went, with his own unyielding ideals as a plumb, his walls grew as straight as they were strong.

It has been the privilege of those of the Magnus, Mabee & Reynard organization who have been entrusted with the task of carrying out the plans of the founder, to use his plans and continue to build as he began.

It has been the honor of the MM&R organization, since its inception in 1895, to supply an ever increasing clientele with their requirements of MM&R products.

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EST. 1895

Main Offices: **32 Cliff Street, New York**

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Standardize on glass for modern, sales-winning packages. Specify Kimble Glass Vials and other small glass Containers for safety, sanitation and increased profits. Full particulars on prices and specifications available on request.

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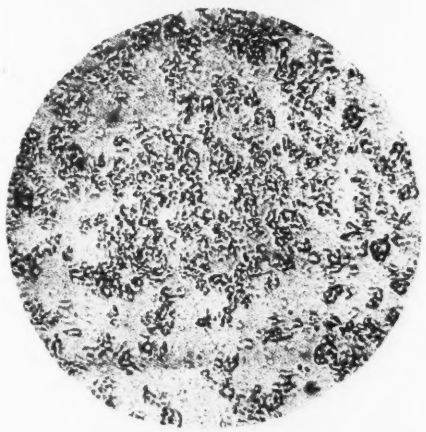
VINELAND, NEW JERSEY.

BRANCH OFFICES: — New York, 1440 Broadway; Philadelphia, 1616 Walnut Street; Boston, 131 State St.; Chicago, 402 W. Randolph St.; Detroit, General Motors Bldg.

STURGE'S STANDARD

PRECIPITATED CHALK



Sturge's Precipitated Chalk is manufactured to a specific density—a standard which always meets the requirements of the tooth paste formula.

U. S. P. Always

Sturge's Standard Chalks have always been up to the standard of the U. S. P.

No Grit

All Sturge's Standard Chalk is free from grit.

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By special methods of manufacture the available alkalinity of Sturge's Standard Chalk is so reduced that there is no red coloration when dilute phenolphthalein is poured upon the dry powder.

Color Unadulterated

Sturge's Standard Chalk is not treated in any way and exhibits only the natural bright white of the pure Calcium Carbonate.

Free from Metals

Finally, the standard of the U. S. P. is sufficiently severe to condemn all but the slightest traces of metallic impurities, so that the almost entire absence of these in Sturge's Standard Chalks is guaranteed.

JOHN & E. STURGE, Ltd.

Birmingham, England

FOR FIFTY YEARS

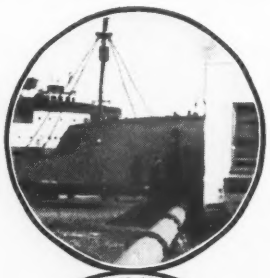
Distributors:

H. J. BAKER & BRO.
271 Madison Ave., New York, N. Y.

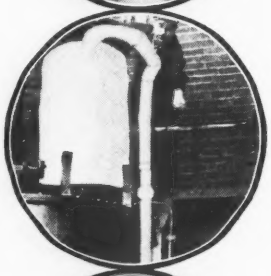
FOR A GOOD TOOTH PASTE

• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •

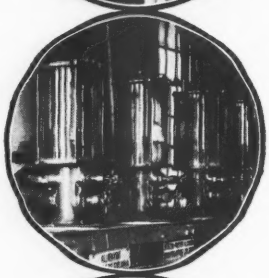
Four company-owned steamers deliver raw material direct to plant.



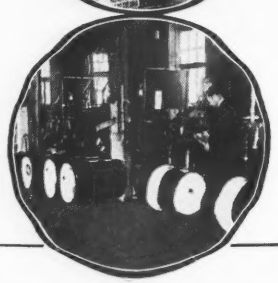
Special distillation process calling for absolute accuracy in control.



Tail box assembly in the anhydrous alcohol plant.



Filling room for drum shipments of solvent chemicals.



ANHYDROUS ALCOHOL

(Pure and Denatured Ethyl Alcohol)

(C_2H_5OH —99.8-100%)

SPECIFICATIONS

Color and Properties:
Clear, water-white liquid, characteristic odor

Constants:* *(for pure alcohol)*
Specific gravity: Not more than 0.7940 at 60/60°F.
Weight per Gallon: 6.62 pounds
Acidity: Free acid as acetic, not over 0.02%
Boiling Point: 78.4°C.
**Constants for Denatured Anhydrous Alcohol will naturally vary with the quantity and character of the denaturants but will approximate the above.*

Solubility:
Miscible with water without turbidity

Dryness:
When 10cc. of the alcohol is shaken in a stoppered tube with 0.5 gm. anhydrous copper sulphate, the latter does not turn blue

Derivation:
Removal of water from ordinary 95% alcohol by a continuous process

Method of Purification:
Distillation

Grades:
Pure and Denatured (all formulae)

Containers:
Tank cars, 50-, 10-and 5-gallon steel or tin-lined drums, ½-litre bottles—36 to the case

Fire Hazards:
Alcohol is inflammable, having a flash point below 80° F. Precautions should be taken to keep flames away from its vapors

ANHYDROUS Alcohol, because of its total freedom from water content, is a valuable adjunct in the preparation of many pharmaceutical formulae where the presence of moisture is undesirable.

A patented and exclusive process of continuous distillation developed in the U. S. I. C. laboratories permits production of a practically pure anhydrous alcohol in any commercial quantity. Because of the affinity standard ethyl alcohol has for water it is not possible to produce anhydrous alcohol by ordinary direct distillation. Standard alcohol is 95% spirits by volume and 5% water. This water content is removed by chemical or physical means to produce anhydrous alcohol. Before development of the continuous distillation process, anhydrous alcohol was prepared by dehydrating standard alcohol with quicklime . . . a wasteful and tedious method.

May we send quotations? U. S. Industrial Chemical Co., Inc., 60 East 42nd Street, New York, N. Y. Branches in all principal cities.

U.S. INDUSTRIAL CHEMICAL CO., INC.

WORLD'S OLDEST AND LARGEST MANUFACTURER OF ALCOHOL CHEMICALS

Ethyl Phthalate. Butyl Phthalate. Nitrocellulose Solutions

Amyl Acetate. Butyl Acetate. Ethyl Acetate. Ethyl Chloro Carbonate. Ether

• DIVISION OF U. S. INDUSTRIAL ALCOHOL CO. •

COLOR AND DESIGN CAN MAKE A MIGHTY DIFFERENCE!

OPPORTUNITY

Comes in a Tube

In 1932 *some one manufacturer* whose product reaches the public in tubes, will bring out a package that will prove a notable success in building bigger sales.

What *you* know about your product, *plus what we know about color and* design and making good tubes, may make *you* that manufacturer.

We are ready to talk this over and to make suggestions. Why not write us . . . *now?*

NEW ENGLAND COLLAPSIBLE TUBE COMPANY

17-35 Waller St., New London, Conn.
3132-34 S. Canal St., Chicago, Ill.
New York Office: 370 Lexington Ave., (Cor. 41st St.)

NEW ENGLAND COLLAPSIBLE TUBES

A Special Bulletin Ready for Distribution

"PHENOBARBITAL IN PEDIATRICS"

IN the bulletin just issued are shown the results of a search of the current literature covering this drug. In it are pointed out the advantages of Phenobarbital over Atropine in the control of projectil vomiting, caused by pyloric stenosis, and other similar nutritional disturbances.

There is no rise of temperature comparable to "atropin fever".

It is not necessary to give increasingly larger doses.

In doses somewhat in excess of normal no cumulative or deleterious effects, either mental or physical, were observed.

The bulletin, giving a summary of the facts with complete references to the literature, will be sent on request.

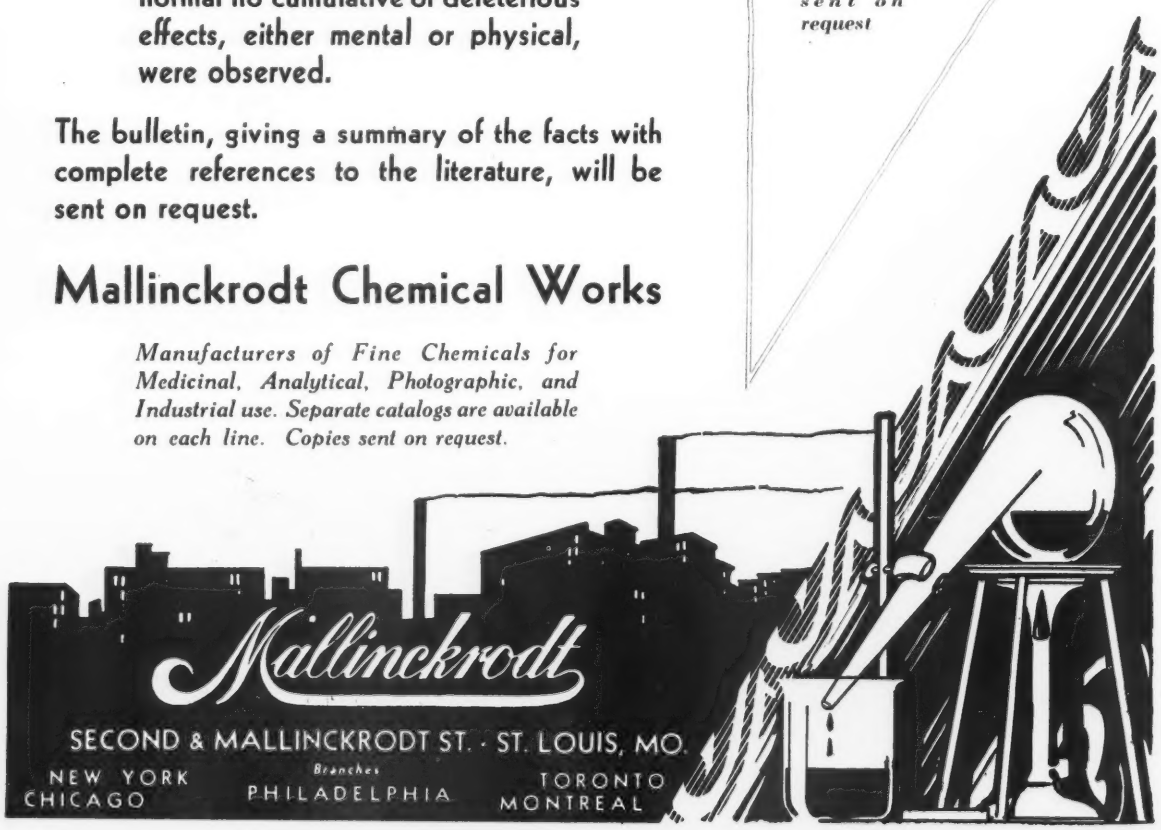
Mallinckrodt Chemical Works

Manufacturers of Fine Chemicals for Medicinal, Analytical, Photographic, and Industrial use. Separate catalogs are available on each line. Copies sent on request.

Mallinckrodt Hypnotics and Sedatives

Phenobarbital
Phenobarbital Sodium
Sulphon-Methane
Sulphon-Ethyl-Methane
Paraldehyde
Acetanilid
Sodium Bromide
Potassium Bromide
Ammonium Bromide
Calcium Bromide
Lithium Bromide N F
Strontium Bromide U S P IX

Complete catalog of some 1500 medicinal chemicals sent on request



School of Pharmacy
University of

An Editorial

Reporting Progress

IN CHANGING the name and appearance of "Drug Markets," we believe that we more truly represent the broad industry which this publication is serving. The very evident trend among pharmaceutical and proprietary manufacturers to develop large production specialties, many of which are cosmetics, and the steady growth of our circulation in this direction are two of the compelling reasons dictating the changes.

IN ALTERNATE issues, beginning with this issue, we will publish "Packaging Drugs and Cosmetics" as a separate section. This does not mean that articles on packaging will be restricted to these issues. It does mean, however, our recognition that this industry—the leader in package merchandising—is keenly interested, not in the ballyhoo which has attended much recent package development, but in following material progress in design, in meeting technical problems associated with packaging and in developing new equipment to keep pace with packaging requirements. This section naturally confines itself to reporting packaging progress adapted to the products of our industry. Its purpose is to interest and serve the executives in all departments of this industry.

SO, WITH this issue we offer "The Drug and Cosmetic Industry." Our many friends will find their old acquaintance, "Drug Markets," behind the new name and new dress, improved, we believe, and more interesting. We, too, had a packaging problem with a trade name no longer truly representative and a front cover lacking the appeal of modern design and failing to suggest the alert progressiveness for which we strive editorially. May "Drug Markets" in this new package continue to hold and increase the interest and respect of our old friends, and find during the coming years a new circle of acquaintances to broaden this friendship.

The Same Problem Still seeking the most effective manner in which to distribute their goods, manufacturers of drugs and cosmetics continue in an effort to find an easy answer to the problem of distribution. However, while most of them are seeking an easy answer, most of them know that they will never find one. That the changes being made by manufacturers today indicate a strikingly different state of mind on the part of most manufacturers toward their wholesale and retail distributors, however, indicates that the solution to the problem is a changing one.

A few years back pressure on all factors in the distributive system—no matter what the cost—was the answer. That this pressure disregarded the interests of many factors in the distributive system did not seem to matter. Today, however, reduction of cost is paramount, and this reduction can most easily be accomplished without great loss of efficiency if the interests of the distributive factors are more carefully guarded.

Thus we find the selection of customers being more carefully considered. We find the maintenance of resale prices being fought for by manufacturers who entirely disregarded the question two years ago. The shifting of lines of attack indicates clearly that the distributors are much more important factors during times of depression than during times of prosperity.

• • •

Tariff Juggling Interesting to all manufacturers in the industry is the fact that mineral oil has been removed from the free list by order of the Treasury Department and subjected to a tariff of twenty-five per cent. ad valorem under paragraph which the basket clause for drugs and chemicals "not specially provided for."

If such a decision is allowed to stand it would mean that the Treasury Department would have the right to remove from the free list any item that is used as a medicine, even though this use was known at the time it was put on the free list, and even though this use may have been the sole reason why it was placed on the free list.

It would seem that such a move to juggle with the tariff act takes advantage of what one acquainted with the facts might regard as an ambiguity in the act, but which to one acquainted with the fact should be perfectly clear. It would seem too bad if the industry is to suffer under decisions which attempt to read into the law what was never intended to be put there. We can well imagine under such a condition that it is well within the right of the Secretary of the treasury to call most raw materials, "chemicals," and thereby include in the twenty-five per cent. duty class almost any product he chooses.

• • •

Convention Observations At the few conventions which have been held this year and last fall, there has been a noticeable lack of the carnival spirit which characterized so many of the trade conventions during the recent happy years. Attendance has been well maintained at the recent conventions, but company representation has, in many cases, been cut to those executives who have a primary business reason for being in attendance.

The trade convention is a fixture in American business life. It serves many useful purposes, not the least of which is the bringing together of competitors at a time and place where animosities can be worn thin in friendly social gatherings. But, perhaps, in the future, the associations will have to do more than provide this social occasion to maintain attendence at conventions. A stronger program of business meetings covering different departmental problems would seem to be in order.

• • •

Our New Name In striving for a name descriptive of the entire industry we find that Webster defines:

Drug: Any substance used as a medicine, or in the composition of medicines for internal or external use.

Cosmetic: Any external application intended to beautify and improve the complexion, skin or hair.

The terminology of the drug trade contains many words specifically limiting a group of products, yet often loosely used in a far broader meaning. Perhaps the most misused word is pharmaceutical, which rolls in the mouth, and which, to the uninitiated, has a very impressive sound. But pharmaceutical, proprietary, remedy, medicine, and a host of lesser stars can all properly be classified under the word "drug", as toilet preparations, toiletries, and toilet goods, can properly be called "cosmetics."

• • •

Foreign Trade Recent newspaper reports have commented on the increase into this country of imports stimulated in large part by the situation in foreign exchange. We believe that another factor operating as a powerful impulse behind these increased imports is the serious condition of

unemployment abroad, caused by an almost complete demoralization of some industries dependent upon world trade.

While America cannot permit dumping of goods within its borders based on a new standard of desperation, at the same time her business men cannot afford too long to ignore the fact that enlightened self interest demands American leadership in relieving the world tangle in international finance.

• • •

Research Continues

The record of scientific achievement during the past year is a good indication of a fact which is well known within the industry—that there has been little or no curtailment in research work. It is unfortunate that there are no figures available to show the very considerable sum spent each year by manufacturers on research in medicine. There could be no better answer to many of the criticisms continually being broadcast for the sole purpose of discrediting the sales policies of those manufacturers who make this research possible.

• • •

The Drug Dinner

The Drug Trade Dinner, scheduled this year for March 15 at the Commodore Hotel, New York, is one of the events which no one in any way connected with the industry should miss if he can possibly be in New York on that evening. This dinner is the one event of the year to which all are welcome whether or not they belong to any association within the trade. All that is necessary to attend the dinner is to send in a reservation.

It is quite safe to say that at this one dinner more people of the industry rub shoulders and shake hands in a real friendly spirit than at any other single function of the year. This should be reason enough for attending.

• • •

Ten Years Ago

From our pages February, 1922

Dr. H. H. Rusby, who is head of the Mulford Biological Exploration of the Amazon Basin, is on his way home. His health, it is said, made it necessary for him to return to the United States before completion of the work along lines he had planned.

The Commissioner of Internal Revenue is issuing more stringent regulations regarding the check up on applications for the use of specially denatured alcohol.

The evening course in Cosmetics, Toilet Preparations and Perfumes established about two years ago at the College of Pharmacy, Columbia University, New York, by Prof. C. P. Wimmer, opened the second semester of the current year on Tuesday evening, Jan. 24.

Preliminary figures showing the production of quicksilver in the United States in 1921, compiled by F. L. Ransome, of the United States Geological Survey, Department of the Interior, give a total of 6,339 flasks, as compared with 13,392 flasks in 1920.

• • • New and Non-Official • • •

• • •

Radio Echoes

Bayers Aspirin has recently started a very fine radio program of high class music—a program which has aroused considerable enthusiastic comment. But a lowbrow friend of ours, whose taste runs to "hot cha cha" music, complained that the program gave him a headache and he had to take an aspirin for relief. Which isn't such a bad break for the advertiser at that.

• • •

Pselling Psyllium

We were amazed, not to say astounded, at the figures for the first eleven months' imports of Psyllium and psimilar pseeds. Amazed—until we started to figure.

Say the year's total reaches five million pounds. We have about 50 drug stores, which makes 100 pounds per store per year. Allowing 50 weeks to the year that makes two pounds per store per week. As a matter of fact it's really less for we have'nt attempted to figure in department stores, groceries, medicine men, etc.

Why five million pounds doesn't even pscratch the psurface!

• • •

Flavors Again

We seem to positively brim over with ideas for new flavor markets. The latest is somewhat along the perfume for personality idea. Why not a rouge flavor expressing personality. Offhand we can think of raspberry flavor for the unmarried lady over 40 and banana oil flavor for the flapper.

• • •

New Worlds to Conquer

In their search for new and different cosmetic materials, some manufacturers are forcing suppliers into hitherto unknown territory. Not satisfied with having exhausted the possibilities of the vegetable and fish kingdoms, they are now turning to the reptile and animal kingdoms, for turtle oil and horse oil respectively as raw material for cosmetics.

You certainly have to be all kinds of a scientist to sell essential oils nowadays.

• • •

Cosmetics on Broadway

Snooping around the bright light district, like some other famous columnists we might mention, we found out that a play about the cosmetic business is on its way to that spot. Its title is "Face Value."

• • •

The Newer Competition

What with dairymen feeding and milking cows to music to get more milk and milk richer in vitamins, and what with doctors recommending music instead of pills for the ailing, all the poor drug manufacturer can do is have his tablets pressed to music.

Give us back the good old days when cows were milked by an "udder" method.

• • •

Noxzema Goes to Verse

Hail to George A. Bunting, president of Noxzema, who has inaugurated the custom of brightening (not that his needed brightening) the annual stockholders report with a bit of verse. His first effort in this direction follows:

If Noxy was what Noxy seems,
And not the Noxy of our dreams,
But only putty, grease and paint,
'Ow quick we'd chuck it! But it ain't.

Courtesy, Davis & Geck, Inc.

Before Lydia

A matron of Salerno, Trotula (circa 1050 A. D.), through her contributions to the literature and practice of obstetrics and gynecology, became the most famous woman in early medical history. Her treatise "Concerning the Cure of the Diseases of Women Before, During and After Delivery" contains the earliest description of perineorrhaphy.

Shifting Distribution

Quite a complete reversal of form is being exhibited by manufacturers in solving the distribution problem today. Quality rather than quantity distributors are now preferred, and stricter attention must be paid to resale prices.

THE problem of distribution which was pressing manufacturers for a solution during the boom times of 1927-1929 is very strongly before the manufacturers today but in a somewhat different form. For while the problem a few years back called for spending more money in a manner which would make the expenditure of competitors ineffective, today the problem calls for curtailment of expenditures without any loss of the relative position in a market. Thus while the problem recently was one of forced distribution, today the problem is how best to guide goods through the channels of distribution by natural means rather than by force.

Changing Sales Policies

The answer to today's problem is being met by changes in sales policies which result in lower selling costs. This is being accomplished by taking advantage of the co-operation which can be fostered among wholesale and retail distributors if manufacturers will attempt to remove from their merchandising policies those factors which create sharp competition among the distributors. The easing off of the selling pressure applied through increased expenditures has brought surprising results to some manufacturers.

Two of the outstanding manufacturers of drugs and toilet preparations, whose goods have long been footballs of the retail trade, have definitely changed their policies in a manner which will tend to prevent price-cutting among the retailers. This change in policy will doubtless lead to a better feeling among the retailers toward these goods. The two manufacturers are the Lambert Pharmacal Company and Colgate-Palmolive-Peet Company. Listerine has long been sold below cost in such a large number of retail outlets that the druggist has long offered substitutes. While Colgate always attempted to maintain resale prices as a sales policy, the Palmolive Company never gave the problem the attention from the retailers' viewpoint that Colgate did. When the two companies were merged, the Palmolive policy took sway over the products of the combined companies. These products have long been the subject of combination offers which have resulted in cut prices on some of the items, particularly the tooth paste which has in some sections been sold by street peddlers for ten cents a tube.

Colgate Follows Lambert

Some months ago the Lambert Company announced a policy of a minimum price for a quantity of the company's goods which was well within the means of any druggist to purchase. By this announcement the company assured retailers that there are no secret discounts or rebates, and that all buyers are paying the same price for the goods. Now the Colgate-Palmolive-Peet Company has adopted a similar policy naming the minimum price on thirty-five dollars worth of goods. This policy means that no one, no matter how much goods they buy, can obtain a better price for any of the goods than the retailer who buys thirty-five dollars worth.

Both of these companies, therefore, have taken a definite step toward assuring retailers that these manufacturers are passing by the temptation easily to sell large lots of their goods as a step toward correcting the demoralized price conditions in the retail market. These manufacturers will doubtless gain ground by this method without expenditure of any large sums of money.

Cosmetic manufacturers, on the other hand, are in some instances, meeting the problem differently. In this branch of the industry there are angles to be considered which do not crop up in the branches of pharmaceuticals and ordinary toilet preparations. The element of class in distribution cuts an important figure in effective distribution of cosmetics and perfumes for women.

One of the largest companies in the cosmetic field, Coty, has made a definite change in its policy of

general distribution to one of restricted distribution as was forecast in the article "Courageous Coty" published in our April, 1931 issue. This policy has likewise been adopted as a means of checking the price-cutting on the eight to ten fast-selling items of the Coty line which were used as loss leaders. In addition, this policy is expected to create interest in the very large number of items in the line which were mainly neglected by those whose interest centered around the loss leaders which were handled merely as a means of attracting trade for other goods. By means of eliminating wholesalers as a class and selecting those distributors who will agree to follow the wishes of the company as regards the merchandising of its goods. Coty will be able to minimize price-cutting on its line and will also be able to assure itself of real co-operation in the marketing of its entire line in addition to the few fast moving items which all dealers handle.

Coty and Rubenstein

Coty is to operate its distribution through these distributors on a consignment basis. Therefore, the goods are the property of Coty up to the time they are sold. Under these conditions, Coty can dictate the terms of sale in every instance and can refuse to allow the goods to be sold to anyone whom it does not desire to get the goods. Direct sales by Coty to the trade are invited at five per cent less than the prices through the distributors.

Coty hopes by this method to stabilize the retail prices in its line and thereby protect its prestige and its manufacturing investment in the present market. To back up its new plan, Coty will have an extensive legal department to prevent infringements of its merchandising policy.

Still another cosmetic manufacturer which is changing its distribution policy is Helena Rubenstein, Inc. The goods of this company have been widely distributed through drug, cosmetic, and department stores. Now the plan is to restrict the outlets to the public by re-establishment of the firm's former policy of zoned trade outlets. This means that certain selected retail stores will be taken on as outlets. Each of these outlets will doubtless have a certain territory in which it will have exclusive distribution. This is the type of policy followed by Elizabeth Arden. The policy assures the dealer of relatively firm prices at retail, and assures Helena Rubenstein, Inc. of the interest and co-operation of every distributor. The prices are certain to be maintained at profitable levels since the dealer will have no competition in his territory, and the dealer is certain to push the goods since he will always make a profit on every sale.

But by and large there is certain to be a greater appreciation of the value of the service of the wholesaler during the present period and it appears that the swing generally on the part of the manufacturers will be toward greater use of this service. For specialty drug and cosmetic manufacturers can not now afford the service of so many salesmen calling direct upon the retail drug trade as it could a few years back. It is much more economical and almost as effective during times when goods can not be forced either upon the retail trade or the consumers to dismiss a great number of salesmen and merely pay commissions. This brings the expense down to a certain percentage of the actual goods sold as compared with a large fixed charge regardless of volume. The tendency today is to reduce fixed charges, and substitution of the wholesalers' service for the salaries of salesmen is one way of bringing this about.

That the present market is not lacking in new temptations to manufacturers to sell their goods easily if they are willing to disregard the effect upon the established distributive outlets is clearly indicated by the move of the Saunders grocery chain to enter the field of pharmacy in their grocery stores. Manufacturers are being asked to sell this chain. As one large manufacturer says, "do not ask me that question, because I can not answer it." His meaning was that he would not sell goods to the chain unless the chain of itself developed a real channel of distribution for drugs and cosmetics. Once the channel of distribution is established by the chain getting its goods in other directions, it is likely that this manufacturer will sell the chain direct. However, this manufacturer has one price to all and will refuse to sell if the prices are cut. So in this one instance the effect upon the established retail drug trade would be minimized.

Industry's Books

Principles of Patent Law for the Chemical and Metallurgical Industries, by Anthony William Deller, 483 pages, The Chemical Catalog Company, Inc., New York, $6.00 net.

An attempt to satisfy the want for an informative book on patent law for those associated with the chemical and metallurgical industries and to explain complex legal doctrines of patent laws in terms of chemistry and metallurgy wherever possible.

New Roads to Prosperity, by Paul M. Mazur, 194 pages, The Viking Press, New York, $2.00 net.

The third part of the trilogy, the two previous parts of which are "American Prosperity", published in 1928; and "America Looks Abroad", 1930. The present book treats of the causes of the failures of American capitalism and presents the possibilities of a solution to recurring economic distress.

The Menace of Narcotic Drugs, by E. George Payne, 287 pages, Prentice-Hall, Inc., New York, $1.50 net.

A handbook prepared for teachers as a means of encouraging education against the dangers of narcotic drugs. The present world status with reference to narcotic drugs is outlined and the extent of their illicit use pointed out.

Woman's Beauty and shopping Guide, 210 pages, Hackensack, N. J., $1.50 net.

A handbook prepared for women which aims to recommend things of value in beauty cultivation and in shopping.

Detail Men

By Harry C. Phibbs

THESE be times when the executives scrutinize carefully each dollar of expenditure, and in the pharmaceutical industry particularly, that large and critical expenditure needed for sales promotion.

Frequently the biggest item of this is for detail men. The name itself is a misnomer—who can tell how it originated? The necessity for "detail" men has become a tradition. A better name and description of the job would be "special representative".

There is a wide diversity of opinion as to whether detail men pay—just as wide as the variety of men and the way they work.

One will say: "I remember when we opened up the . . territory. I was detailing then and saw some of the best men. Started them prescribing and they are prescribing our goods yet . . . sure, detail work pays." Right. That kind does.

Another will point out: But look at the city of . . . and . . . . We have had men detailing there for a year and the sales don't yet cover the detail salary and traveling expense."

Still another: "Detail work is just part of the promotion set-up. Without detail your mail and journal advertising would fall to the ground."

And another: "A detail man is only worth his salt if he can also visit the trade and sell." But mercy! another voice projects the opinion: "No man who can do good detail work can sell goods. It takes a different man—personality—training."

They can show you companies which are successful and have no detail men, depending entirely on mail and journal advertising—and other companies which are successful using detail work entirely.

To get definite information from another source, we may go to some doctor friends and ask their opinions. Most likely they will tell us: "I wish you'd keep your damn agents out of my office. They just consume time and clutter my office with samples."

Still we find eminent doctors who have been influenced by "detail" work—who are prescribing certain products because of it.

So the bewildered executive is prone to compromise and figure that a certain expenditure for detail men is like taxes—inevitable.

But such a loose and unscientific method of authorizing expense is not to be tolerated, and we must find a more definite way of determining how we shall appropriate money for this form of promotion.

From my experience I would say that detail work pays if the men are well selected and properly trained—if they are closely supervised and if they are used as a unit in a carefully thought-out campaign of mail and journal advertising.

While the value of detail men is the subject of almost endless discussion, Mr. Phibbs treats the subject in his own manner, and usual humorous style.

The tendency has been too much to take the value of detail work for granted, slap poorly trained and ill-equipped men into a territory, and let them go haphazard, warming the chairs in the doctor's waiting room. The best they do is leave samples—the worst they do is write glowing reports which are misleading. The doctor to them is a "yes man" because he has learned that to avoid argument is the easiest way to get rid of such a detail man quickly.

This type of man will have nothing new or interesting to tell the doctor. His best—and his worst—is to spiel off the name, his firm's name, the name of the product and a sentence of gabble that can be described as about the copy generally found on the label. More than likely the doctor knows as much or more about the product than this fellow.

It costs approximately $2.50 of the firm's money to have him step into each doctor's office. It costs

the doctor the time of one patient—frequently it costs the firm a sample that is not used, and the net result is perhaps less than could be accomplished by a good letter or an advertisement in a medical journal.

A detail man will call on from eight to ten doctors a day. His reports will state that about fifty per cent. gave him a "good interview"—you know the kind of stuff that reports are made of—"Good man. Promises to prescribe"—"Excellent interview—will use in next case of ingrown toenails—send sample". But let the mathematician in your organization laugh at this one: If one out of every ten doctors interviewed lived up to the detail man's report and began prescribing, the orders from the territory would show an increase; do they ?

Whose Fault?

Now, we've been pretty rough on the poor "run of the mine" detail man, but is the fault his ? No, sir, it is more than likely the fault of Mr. Executive. And why, you ask. Well, you made him what he is today; he in his simple youth was a poor but honest drug clerk or member of your shipping department, and *you*, by gosh, gave him a grip, made him buy a new suit, printed some visiting cards for him and let him loose on the long-suffering profession. He, poor devil, is doing the best he doesn't know how, and can you blame him if after some cruel and heartless doctors have shooed him out of their sanctums, he takes refuge and solace in the gloomy caverns provided for such by the moving picture special matinees.

That's pretty rough, you cry, and do you mean to say, mister, that no detail work pays ?

No, sir, some detail work pays—pays handsomely. But it must be done handsomely by a fellow who knows his stuff and can do it. A good detail man is a gift from heaven; like a good athlete, he must be discovered and developed and trained and kept in training. When he hits a territory, your sales department will know it by things happening.

Finding the Man

Where, oh, where can we find such a pearl of price ?

Here, there, anywhere. Generally you gather them young and raise them to maturity. Best chance is a pharmacist, ambitious, with a yen for learning and with a serious personality. A fellow has to take this job seriously to get anywhere with it. His head must be quick on its feet. His eye must be on a manager's job. He must have everything about your products on the tip of his tongue and his spine must be made of chilled steel.

When he strikes a territory, he doesn't skulk to the back streets where the easy-to-see doctors live. He is after the big fellows and has a compelling story, worth telling. When he gets turned down, he isn't afraid to put it in a report, and strange to say, doctors bless him because he brings them information of value.

He makes contacts with clinics that develop clinical reports; he spikes misunderstandings and offsets competition. Druggists love him because he causes the prescriptions to come rolling in. And sales managers spoil him because he is a star and knows it.

He is a diplomat who does not antagonize by undue argument. He is a psychologist who knows his man and approaches him on the flank that is pregnable. In a way he is a scientifico of parts, who can reason as a doctor thinks.

Is there such a paragon in captivity? Why, yes, many of them—not too many. And they sell goods because when they work a territory, they produce prescriptions in sufficient quantity to show up on the sales sheets.

Pharmacist or Chemist

Such a detail man is not often an M. D. himself—much more frequently he is pharmacist or chemist. Some executives contend that a doctor makes the best detail man. My experience is that such is seldom the case. Most men with an M. D. degree who have tried detail work, failed because they were too assertive and argumentative with the doctors visited. There are exceptions, of course.

It would be a very good thing if some of our pharmacy schools would give a postgraduate course in detail work to a small number of students who are temperamentally fitted for this line of endeavor. The course would be some materia medica, some chemistry, some physiology and some salesmanship.

Develop Your Men

But maybe you have on your force one or more real detail men in embryo—fellows who have some of the stuff, but have not yet developed fully. It would pay you, Mr. Salesmanager, to take a few weeks away from home and mamma to play Boots! Boots! Boots! with such a boy. See at first hand not only where he is weak, but where you are a little bit wobbly in not supplying him with the ammunition he needs to make his work click—a desk-side demonstration made in a minute in a few test tubes—a set of graphic charts—something definite and different to lift the detail out of the "let me leave a sample" class. Then train your aspirant to get into the drug stores, to base his operations and judge his results by the prescription pharmacies. Make him survey each week's work on the basis of prescriptions written by the doctors visited. When you have a man going on the right path, keep him there by close supervision of his work and a little cooperation on your part, by feeding him new detail material from time to time.

After all this work and fuss and effort, you will find that at the very best only about one out of every three men you start will prove worthy, for detail work is a case of "many are called but few are chosen". And to sum the matter up, not more than half of the detail work done today pays—but it isn't all the detail man's fault.

Taxing the Free List

If the ruling placing a duty of twenty-five per cent. ad valorem on mineral oil is allowed to stand, a precedent will be established which would permit the Treasury Department to place any medicinal raw material in the dutiable class although it might be the intent of the tariff law that it remain on the free list. Every drug and cosmetic manufacturer, whether or not he uses mineral oil, is vitally interested in the far-reaching effects of this decision.

A RULING by the Secretary of the Treasury that mineral oil, or white oil, is medicinal in character and therefore is assessed for duty at twenty-five per cent. ad valorem under paragraph 5 of the tariff act has created a furor in the drug and cosmetic industry. Not only because mineral oil in the opinion of practically everyone in the industry is not a medicine, and because large quantities of mineral oil imported are used for production of cosmetics, rayon, apple spraying, etc., is the decision regarded as absolutely foolish and unjustified, but also because the oil is specifically provided for in a paragraph on the free list.

The paragraph of the free list which specifically mentions mineral oil is paragraph 1733, which reads:

"Oils, mineral: Petroleum, crude, fuel, or refined, and all distillates obtained from petroleum, including kerosene, benzine, naphtha, gasoline, paraffin, and paraffin oil, not specifically provided for."

The paragraph under which the duty has been assessed is paragraph 5 which reads:

"All chemical elements, all chemical salts and compounds, all medicinal preparations, and all combinations and mixtures of any of the foregoing, all the foregoing obtained naturally or artificially and not specially provided for, 25 per cent. ad valorem."

Since the ruling is made under a paragraph obviously designed only for the purpose of catching those items mentioned in other parts of the tariff act, it would appear that the only safe way for a future tariff act to be written with regard to medicinal products would be to mention the fact that medicinal grades of each item are also included. So when any essential oils, drugs or chemicals are mentioned on the free list it would seem necessary to mention the fact that medicinal grades are included since the Secretary of the Treasury might make a ruling claiming that U.S.P. grades are medicinal and therefore included under paragraph 5 whereas the free list ruling would be claimed only to apply to those grades which have uses other than medicinal.

That there exists no basis for a ruling by the Secretary of the Treasury to make such a ruling is the opinion of several large users of mineral oil who firmly believe that the ruling could be reversed in court. It is stated that under such circumstances, the Secretary could practically rewrite the tariff act so far as any product that has a use as a therapeutic agent is concerned. Under such conditions, despite the action of Congress in passing the bill, cod liver oil, which is mentioned on the free list, but which also has large use as a therapeutic agent, might also be assessed at 25 per cent. ad valorem if it so pleased the Secretary, it is said. It is pointed out that any number of items specifically mentioned in the free list might be changed if this precedent is allowed to stand. Among these are many crude drugs, essential oils, spices, and chemicals such as quinine and its salts, santonin, sulfur, sodium nitrate, etc.

Obviously it would not be so easy for the Secretary to rule in like manner on such basic products as sulfur and sodium nitrate since they are so widely used in fields other than medicine. But still the secretary might attempt to rule in this manner and restrict the ruling to certain grades used for medicinal purposes, manufacturers point out. But if the Secretary were to rule this way, he could not be certain that the only use of such grades is in medicine, and he find himself up against a complicated problem of administration in applying the ruling.

As a matter of fact that is just what the Secretary will find himself up against in the matter of mineral oil. If he takes it upon himself to overrule the provisions of the law with regard to the free list as it was passed by Congress and signed by the President, his ruling can not hold water for mineral oil which is not used for internal consumption. And as a matter of

fact, the Secretary will soon find that large quantities of mineral oil bought on the U. S. P. standards of quality are used in production of products that never find their way into the human system. It seems obvious, therefore, that the Secretary must make provisions to allow this oil to enter duty free since the act of Congress specifies that it must be duty free, and the only way in which the Secretary is overruling the intention of Congress is by claiming that it is used as medicine. So if he can not prove that it is used as medicine it must come in duty free. Manufacturers would like to know just how the Secretary intends to prove this fact.

Perhaps, it is stated, the Secretary will assess all mineral oil for duty and then allow it to come in duty free if the oil is proven to have been used in other than medicinal directions. Naturally such a procedure would embarrass importers and perhaps this is all that the Secretary is after, since such embarrassment would doubtless prove a competitive weapon in the hands of a domestic producer of such an oil.

It is interesting in the report of the new tariff on mineral oil to note that the mineral oil offered for import upon which the decision is based was imported from Belgium. It is stated that the only oil imported from Belgium is a heavy viscosity oil which is imported by one of the largest petroleum products producers in this country. This producer also produces mineral oil but not of this heavy viscosity. So the decision is not favorable to the petroleum industry as a whole, but probably only to one or two of the producers.

Appraiser Opposes Tariff

It is also interesting to note in the report that the Appraiser of Customs when asked about this oil, gave his opinion that the article possessed no therapeutic qualities because it can not be assimilated into the system but acts merely as a lubricant.

The Customs Bureau, Treasury Department, gave careful consideration to the matter. It was conceded that if the oil has no medicinal qualities it is entitled to free admission. "However, the record before the Bureau," according to the decision, "shows that the merchandise is used for human intestinal lubrication, and therefore has therapeutic qualities.

"Webster's New International Dictionary defines the word 'medidcinal' as 'curative or alleviative; use for the cure or alleviation of bodily disorders,' and defines 'medicines' as 'any substance or preparation used in treating disease; a medicament, a remedial agent; a remedy; physic.'

"It is the information of the Bureau that this mineral oil is used for the purpose of alleviating bodily disorders and the article responds not only to the dictionary definition of a medicinal preparation, but to the common understanding as well.

"While, as already stated, the article is aptly described in paragraph 1733, being a refined petroleum product or distillate, nevertheless, the Bureau is of the opinion that, applying the doctrine of use, the provision in paragraph 5 for medicinal preparations controls over the provision in paragraph 1733 * * *."

However, in answer to the Treasury Department's ruling that mineral oil is a medicine, one manufacturer who bottles mineral oil for internal consumption states that the Food and Drug Administration of the Department of Agriculture will not permit him to use the words, "medicinal, medicine, or therapeutic," on his labels or package. Thus, while one department of the government proves its point by claiming that mineral oil is a medicine, another department denies that this is the fact and will not permit manufacturers to make such a claim.

New Foreign Medicines

Taxilan salves are manufactured by the Promonta, Hamburg, Germany. The investigations of Schade and Marchionini as well as those of Scholtz have shown that the surface of the skin is acid and is protected against infection due to this condition. ("The skin is surrounded by an acid covering".) Infections may be facilitated by derangements of this acid covering and the normal process of the development of callous condition is also disturbed. This salve is a skimmed milk preparation. The preparation, which is known under the name of normolaktol and which is manufactured by the firm of C. F. Boehringer, Hamburg, Germany. This preparation contains lactic acid. The pH number of the preparation is 3.7. The literature on the subject includes the following: Scholtz, Klinische Wochenschrift, year 1931, pages 1670ff.

Ascaridol

Ascaridol is an anthelmintic and is made by the I. G. Farbenindustrie A. G. The product, which is known as oleum chenopodii and which is used against the ascarida worms, is not always a safe remedy to administer. This oil is obtained from the American goosefoot (chenopodium). The difficulty in its use is due to the fact that the proportion of active principle, that is contained in it, varies to some degree. Another troublesome condition is that the dose, which is therapeutically active and the amount of the medicament which is normally poisonous to the organism, do not lie far apart from one another. The result has been that at times accidents have occurred in using the official oleum chenopodii, although the directions and requirements, which were formulated by Straub some years ago, have been fulfilled. The ascaridol, which is made by the I. G. Farbenindustrie A. G., Frankfurt-am-Main, contains only the active principle. It is therefore a preparation of constant composition in contradistinction to the oleum chenopodii which has been used up to the present time.

One gram of ascardiol corresponds to thirty-five to forty five drops of oleum chenopodii. The literature

(Continued on page 126)

Liquid Shampoos

One of the staple articles in any line of cosmetics is shampoo. In this specially prepared article on the subject, the author has covered the ground in a comprehensive manner, stating requirements for various types of shampoos and telling how to prepare them.

SHAMPOO soap is one of the staple articles in the trade and for this reason nearly every one who puts out a line of toiletries feels that shampoos ought to be included even though they are difficult to make and are sold at traditionally low prices. In contrast with other cosmetic preparations, problems beset the maker of shampoos from the time he selects his raw materials until he bottles the finished liquid. And even then, if he has not been wary, the bottled preparation is apt to become turbid and cause complaints and returns.

In commerce there are two kinds of liquid soaps: one for the hands, the other for shampooing. The former is made from cheap materials; it is a low percentage soap and little care is taken with regard to free alkali present.

Liquid shampoos on the other hand should have as little free alkali as possible, not only when the soap is completed but also at the time the secondary hydrolysis takes place when additional water is mixed with the liquid in the actual process of shampooing. A soap tested with phenolpthalein at the completion of the manufacturing process may show but a pale pink and yet with the addition of more water this pink will become decidedly darker. However, as a general rule a shampoo that shows relatively little free alkali at the time the liquid is finished will as a matter of course show comparatively little at the time the additional water is added in shampooing.

The ideal shampoo soap should lather abundantly: it should cleanse the hair and scalp thoroughly; and it should leave the hair soft and silky, and lustrous. Shampoos that contain a large amount of free alkali and are not made from the right oils will leave the hair dry, brittle and dull. A 15% soap should not have an excess of alkalinity calculated as Na_2O of more than .05.

Basically, shampoo soaps are of two general types; those made from a soft soap base and those made from oils. The former are made with hospital green soap, additional water and alkalis. As a rule they are harsh and inferior in quality and hence have become obsolete. The oil base soaps, which are our chief consideration, are made by two processes: cold and hot. Cold process soaps are apt to leave the odor of the oils and for this reason most manufacturers prefer to make shampoos by the hot process. The manufacture of both types will be described later.

Meanwhile, what are the factors governing the selection of raw materials ? First of all, the oils most desirable are those of a low titre, high saponification value. These properties vary with different lots of the same oils, just as essential oils of the same kind will vary from season to season. Hence, it is of primary importance that the sources of supply for the oils be standardized and each lot rigidly tested before use. Some of the very large manufacturers of liquid shampoos go so far as to blend the oils so that the soap will always be made from oils that are as near standard as possible. Rigid chemical control is emphatically necessary as it is possible that one may get raw materials that have been adulterated with cheaper oils, which may contain unsaponifiable impurities that will later tend to cause the shampoo liquid to become turbid, or which may decrease lathering properties. Roughly speaking, the saponification value of the oil is a partial test as the addition of low saponifiable adulterants will decrease saponification value. But as the saponification value of any given oil is apt to vary from 20 to 50 points, this is by no means an accurate test.

The oils generally accepted to have the desirable qualities of high saponification, rich lather and blandness are: coconut (best cochin grade), almond, sesame, palm kernal, olive and peanut oil. As oils have been graded in accordance with their relative saponification values, and as this information can be

obtained from standard works on the subject, only the group above will be given here as these are the most desirable ones. It is most important that the oils selected saponify quickly and thoroughly; that they do not leave the hair greasy; and that they do not go rancid.

Almond and palm kernel oils saponify quickly and thoroughly and impart a rich abundant lather. So also does coconut oil but some authorities claim that coconut oil used alone is harsh on the skin and that it should be cut with other oils: palm kernel, almond, olive, etc. Coconut oil, however, has an extremely desirable property in that a soap made from it will lather quickly and richly even in hard water.

The alkalis to be used should be selected with equal care as commercial KOH and NaOH (caustic potash and caustic soda) are susceptible of variation. The strength of the alkalis must be definitely known. Those generally favored range from 88 to 94%.

Making the Soap

Having selected the raw materials, the next procedure is to make the soap. It is well to remember at the beginning that perfect saponification is impossible. There will always be a certain amount of free oil and alkali present. To keep both at a minimum is the desideratum of shampoo soap making. (This subject will be referred to again in the discussion of turbidity below). As a general rule it is a good thing to use a small quantity of caustic soda as this materially aids clarification. Soap should not be agitated violently as this beats in air and also causes a thick "blanket" to form. Gentle agitation is of course necessary to eliminate the bubbling over attendant upon the reaction of the oils and alkalis.

There are two time-honored empirical tests applied after saponification to determine the degree of saponification. Like all empirical tests neither of these is accurate and serve only to guide the manufacturer who is without the services of a chemist.

Free Oil Detection

Free oil can be detected by placing a little of the soap into water. If an oily scum comes to the surface there is free oil present and saponification should be continued.

When saponification is apparently complete, place a small quantity of the soap in water. This, if saponification is relatively complete, will settle to the bottom of the glass and in dissolving will not make the water cloudy. If a milky ring surrounds the dissolving soap saponification is not finished and must be continued.

When saponification is complete, the soap should be allowed to stand over night before the water is added; and this is especially true of hot process soaps.

Alcohol and glycerine are added to shampoo soaps to aid saponification, to inhibit excessive hydrolysis; and the glycerine, particularly, to increase lathering properties.

The following typical formulas are given to illustrate various kinds of shampoo liquids. All may be modified as experience and requirements dictate:

Coconut Oil Shampoo (Cold Process)

Coconut oil	85 lbs.
Caustic potash	6 "
Caustic soda	2 "
Alcohol	3 gals.
Distilled water, q.s. to make	20 "

Dissolve the alkalis in three gallons of water. Melt the oil. Stand until lukewarm; pour in the alkalis in a thin stream stirring at the same time. Then mix whatever perfume may be desired with the alcohol, add this and continue stirring until the liquid becomes a light amber color. Add water.

Olive Oil Shampoo (Hot Process)

Olive oil	24 lbs.
Palm kernel oil	16 "
Coconut oil	20 "
Caustic potash	12 "
Caustic soda	3 "
Alcohol	1 gal.
Water, q.s. for	30 "

Dissolve alkalis in five gallons of water. Heat the oils to 130° F. Pour in alkali solution in a thin stream and continue mixing until saponified. Then mix in alcohol and continue heating and mixing until 160° F. Remove from heat and allow to stand over night. Add rest of water.

Almond Oil Shampoo (Hot Process)

Almond oil	5 lbs.
Palm Kernel oil	13 "
Sesame oil	12 "
Caustic potash	5 "
Caustic soda	2 "
Alcohol	6 pints
Water, q.s. to make	7 gals.

Melt the oils, and at 120°, stop heat and mix in palm kernel oil. Dissolve the alkalis in boiling water and allow to cool until lukewarm. Pour alkalis into oils and stir until saponified. Add the alcohol, stir until mixed; allow to stand over night and add the rest of the water.

To increase the lathering properties of the foregoing shampoo soaps, make the following mixture and add three or four per cent.:

Glycerine	6 lbs.
Borax	3 lbs.
Potassium carbon	1 lb.
Oleic acid	3 ozs.
Alcohol	1 gal.

Mix the oleic acid in the alcohol. Dissolve the borax and the potassium carbonate in the glycerine. Mix the two together. Add three or four per cent., as

stated, to the shampoo soap. This should always be quite hot when added to the soaps.

Tar shampoos may be made by substituting linseed or soya bean oil for the other oils (always using of course a certain amount of coconut oil—about fifty per cent.) Use also about five per cent. of rectified oil of tar or else a mixture of pine tar and the rectified oil.

Alcohol Unnecessary

In all of these formulas the alcohol may be omitted (many authorities maintain that alcohol is not indispensable). A difference in the speed of saponification may be noted, but the absence of the alcohol will have no deleterious effect on the finished soap.

When the foregoing soaps have been cut with the requisite amount of water, we come then to the problem of filtration, and this is the bugbear in making liquid soaps. How many filters, filter media and filter aids have been roundly damned because the soap became turbid on standing!

Largely, the elimination of turbidity and the permanent clarification of soaps is not a filtering problem at all. Filtering is of course essential but the best filter in the world will not permanently clarify a soap that has not been properly made in the first place.

Causes of Turbidity

The common causes of turbidity are: first: the use of water which has not been distilled. Second: insufficient aging before filtration. Third: insufficient saponification. Fourth: presence of unsaponifiable oils. Fifth: failure to have soap on alkaline side.

When undistilled water has been used and the liquid soap filtered as soon as made, the free alkali will react with the salts in the water and cause a cloudy precipitate. This condition can be met by aging the soap from 15 to 30 days, during which this reaction will have been completed, and also, the harder soaps will have been thrown out. The soap can then be filtered and it *might* stay clear. But when unfiltered water is used in liquid soap making difficulties may arise even after it has been aged and filtered.

Insufficient Saponification

Insufficient saponification often causes turbidity as the free oils are gradually saponified by the free alkali and the harder soaps precipitated. This is a progressive reaction, and, since perfect saponification is impossible (as was stated above) this reaction must take place and the only way to avoid turbidity is to give the finished soap sufficient time in storage to permit this reaction to complete itself. Often saponification will be completed in a relative sense, yet there will be an excess of oleic, palmitic or stearic acids which will cause the soap to become turbid as they are gradually saponified and precipitated. A shampoo soap should always be on the alkaline side.

Unsaponifiable foreign matter may be present in the raw materials and will flocculate out on standing and float about in the soap as fine gummy or gelatinous hairs or clots. This condition usually becomes evident when the soap has been exposed to lower temperatures and the only way to meet it is by refrigeration. A refrigerating tank can be made with an ordinary tank suitably constructed to prevent corrosion, a coil placed within and connected to a small portable refrigerating unit of the type commonly used to refrigerate ice-cream boxes.

Hence, to avoid turbidity: use distilled water; age the soap from fifteen to thirty days; syphon off the liquid into the refrigerating tank so as not to disturb the sludge at the bottom of the storage tank. Mix with the soap some form of filter aid (optional), refrigerate the liquid to about 45° F. and then run through a filter preferably fitted with asbestos pads.

Viewing the problem of shampoo soap making in perspective, it appears certain that, as its manufacture becomes less empirical and more scientific, it will be easy to make the soap within a twenty-four hour cycle without danger of turbidity and without the need for refrigeration. That this can be done has already been demonstrated by one of the foremost research chemists in the trade.

Technique of Filling

As shampoo soaps will foam excessively in filling it is desirable to employ a vacuum filler in which foam is carried over into an overflow tank instead of bubbling over the lip of the bottle and down along its sides. In designing the bottle it is well to remember that it will be handled by wet slippery hands, so that a shape which is not easy to clutch should be avoided. Although some manufacturers employ a wrap around label partly for this purpose, yet from the writers point of view, a wrap around label becomes an unsightly mess when wet and eventually falls off. If a wrap around label must be used it should be glued all over so that it will stay with the bottle and if possible made with a varnished paper that will in some degree preserve its appearance. This type of label (and opaque bottles) are often used to conceal the fact of turbidity.

Question of Viscosity

Often the complaint is made that the finished shampoo is not sufficiently viscuous. This is a condition which should not exist if the soap is properly made;—it being due usually to an insufficient percentage of anhydrous soap in the finished liquid. But if a filler is deemed necessary (and it may be for common hand soaps) a suitable one can be made as follows but it is not recommended for shampoo soaps:

Caustic potash	7.5%
Calcium chloride	7.5 "
Sugar	15.0 "
Distilled water	70.0 "
	100.0 "

Perfuming Shampoos

By Ph. Chaleyer

As a companion article to "Liquid Shampoos," Mr. Chaleyer treats the subject of perfuming these products. Depending upon the type of shampoo and the method by which it is made, ingredients used to perfume the product should be different.

THE importance of perfuming shampoos properly and scientifically, in order to obtain the maximum repeat orders, has made the following article the logical sequence to the article on Liquid Shampoos. Cloudiness, discoloration, odors turning bad after bottling, have resulted in a large number of returns which frequently could have been avoided by the selection of the proper type of perfume.

In the companion article, there are enumerated the advantages and inconveniences of the different methods of making shampoos. I shall endeavor to show why the questions listed below are important to answer before selecting a perfume for shampoo, why it is not only a matter of asking your chemist or any essential oil house to submit perfumes for shampoo, but how full consideration of these questions will result in a better product.

1. Is my shampoo going to be sold to men or women or both ?
2. Have I used a medicated soap as a base ?
3. Is it made by the cold or hot process ?
4. Does it contain alcohol ?

(1) Tastes in perfume differ among men and women because consciously or sub-consciously, they react differently when confronted with perfumes. Men like to smell appealing and lasting perfumes on women, but for themselves they prefer the so-called masculine odors such as Eau de Cologne, which is so popular in Europe and is a mixture of oil of orange, lemon, bergamot, neroli, thyme, rosemary, lavender, etc. Fougere, (Fern), lavender, pine needle, etc., are also very popular odors because they are refreshing but not persistent. They do not like, as it is so often termed, "to smell like a barber shop."

Women, on the contrary, prefer more elaborate and lasting odors, they like odors that will remain on their hair after shampooing and will be agreeable to smell during their long stay at the beauty shop. Odors along the type of favorite fashionable perfumes in vogue will always be popular. If the shampoo is intended for both men and women, Eau de Cologne type of odor will always prove more attractive to both.

(2) Many shampoos are made with a medicated soap base or contain oil of cade, birch tar or coal tar as an antiseptic, in which case they are almost impossible to perfume and it is best to try to slightly sweeten the odor of the antiseptic with a little oil of neroli or rose geranium.

In fact, the use of ill smelling antiseptics in shampoos should disappear entirely as there is a great number of new antiseptics with a germicidal power many times that of tars or carbolic acid which are practically odorless and there is no need nowadays to smell like a hospital to be clean. Moreover, a great many essential oils have excellent antiseptic qualities. Oil of lavender has been used very successfully in France for the treatment of skin diseases and in the dressing of wounds. Oil of rosemary has been used for years by the peasants of Spain for the treatment of falling hair and all essential oils containing a phenol or aromatic chemical such as eugenol, which has a phenolic group in its formula, are good antiseptics.

(3) A shampoo made by the cold process will be perfumed differently from a hot process shampoo because the cold process shampoos are not as stable as the hot process ones and have in general a greater alkalinity. For this reason, very stable types of perfume should be used and a rose perfume will be more suitable for the purpose as products such as geraniol, phenyl ethyl alcohol, rhodinol and oil of geranium are not effected, or very slightly so, by

(*Continued on page 126*)

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Citrate Bottle Pressures

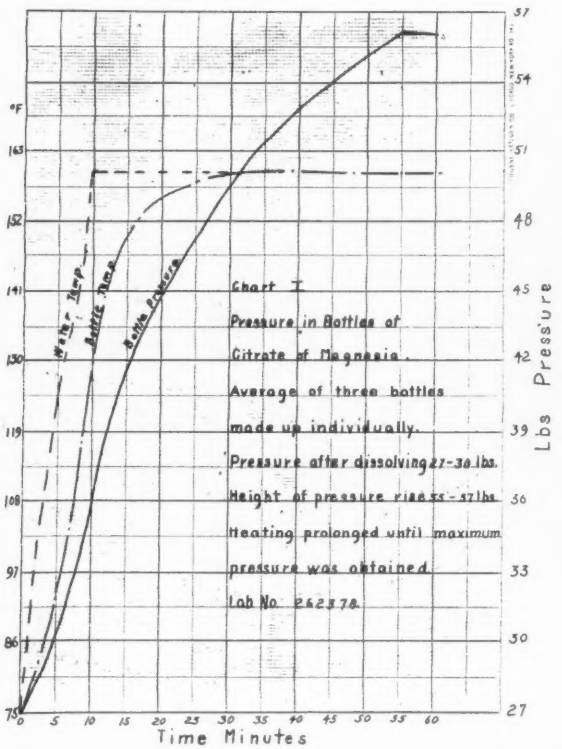
By A. L. Sodergreen*

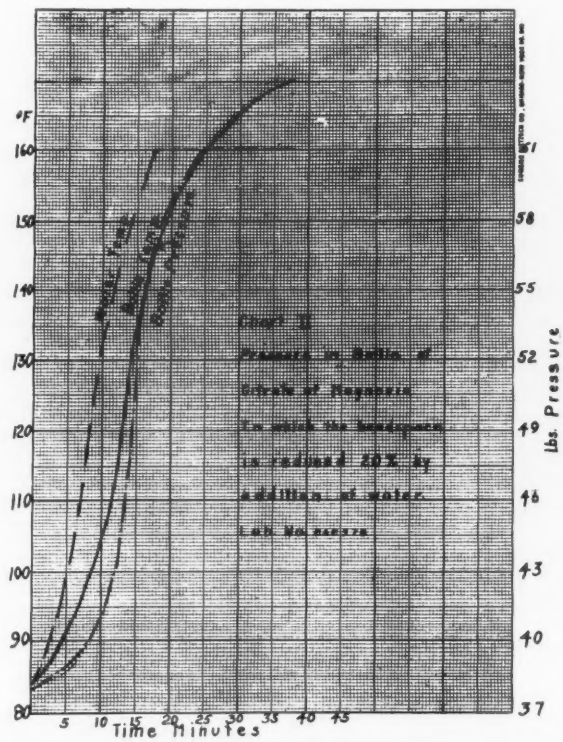
An investigation is made into the internal pressures and temperatures obtained in Citrate of Magnesia bottles during pasteurization with variations in the formula of the Citrate.

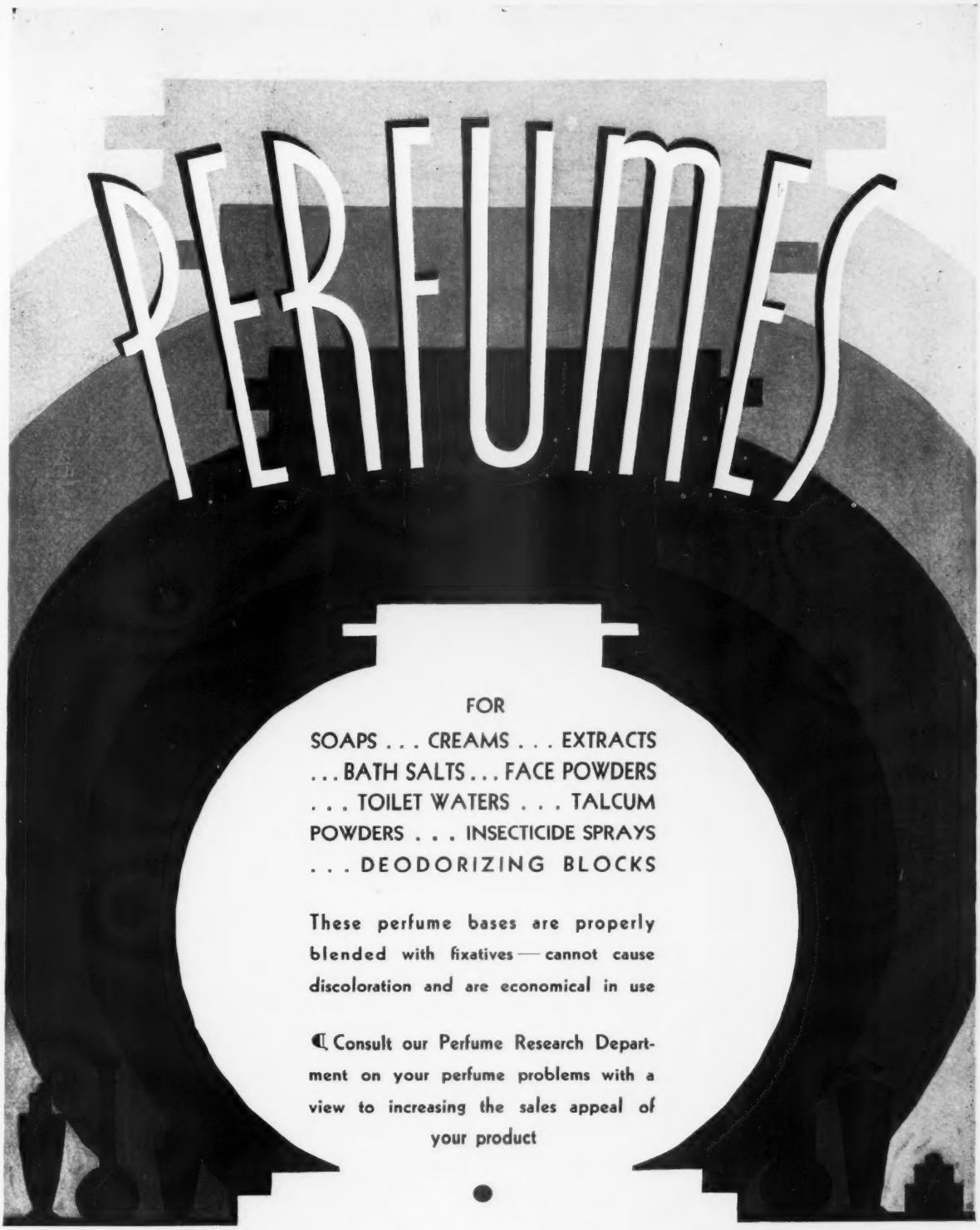
THE fact that small variations in formula of citrate of magesia U. S. P. will cause differences in the internal pressure within the bottle in which the citrate is packed has long been known. However, there has not heretofore been published any information regarding the extent of this variation. Also it was determined to study the effects obtained during the pasteurization period both with regard to the temperatures and the pressures obtained within the bottles.

The standard procedure given in Remington's "Practice of Pharmacy," 6th edition, page 804, was followed in making up the individual solutions for each bottle. The hot solution Citrate of Magnesia made up to volume was filled into a Citrate of Magnesia bottle and cooled to 75-80° F. When cool the volume was adjusted to the filling line and a tablet of potassium carbonate suspended in the neck of the bottle above the acid solution by means of a silk thread. A crown cap previously perforated for the attachment of a capillary tube, was then crimped on the bottle. The capillary tubing was then soldered onto the cap, connecting the bottle with an accurate

*Pease Laboratories, Inc.



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pressure gauge. The bottle was then shaken to dislodge the tablet of potassium carbonate, which settled to the bottom and dissolved. When the tablet was entirely dissolved and pressure steady, the bottle was placed in a water bath preparatory to pasteurization at 160° F.

A similar bottle, less the potassium carbonate with a thermometer inserted through the Crown cap, was also placed in the water bath, in order to note the temperature changes during the period of pasteurization. It was assumed that the conditions in regard to heat transfer were approximately the same in both bottles so that the temperature and pressure were corresponding at the time of the readings.

After placing in the water bath, steam was turned on and the temperature raised to 160° F., recording the temperature and pressure increases as the heating continued, and during the holding period of 20 minutes after the bath had reached a temperature of 160° F.

Also in order to note if the pressure continued to rise after maximum temperature was reached, the holding period was continued approximately 25 minutes until constant pressures were recorded.

Table 1 given below, shows the results of three separate bottles run for pressure, with the effects of prolonged holding periods.

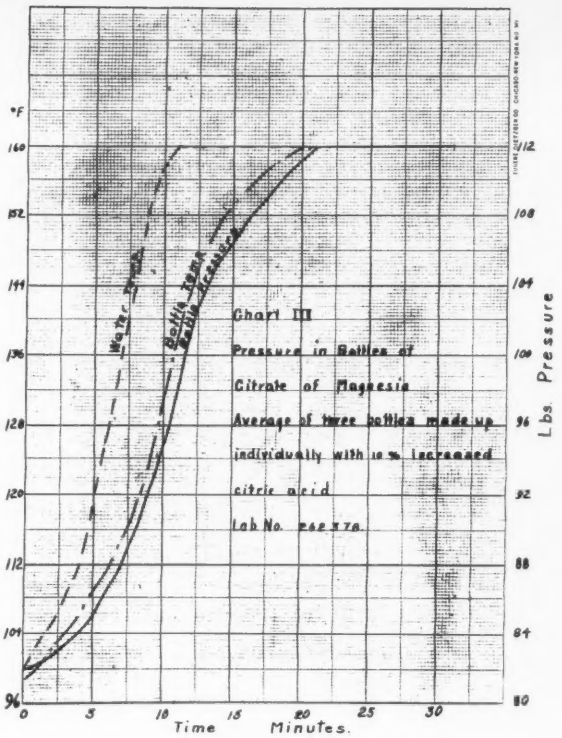
This table is also graphically shown in Chart 1.

Table 1

Time Minutes	Temperature °F. Water Bath	Pounds Pressure Bottle	Bottle No. 1	Bottle No. 2	Bottle No. 3
		Heating Up Period			
0	75	75	27	30	30
2	100	80	28	32	30
5	125	94	30	34	32
7	135	106	32	36	34
9	147	119	34	40	36
10	160	131	36	41	37
		Holding Period			
11 5	160	136	38	42	38
13	160	145	40	43	40
15 5	160	151	42	44	42
19	160	155	44	45	44
22	160	157	46	47	46
26 5	160	158	48	49	48
30	160	160	49 5	51	50
		Prolonged Holding Period			
40	160	160	53	57	53
44	160	160	56	57	54
54	160	160	56	57	55

It is rather significant that the pressure rise is to uniform in the three bottles. This is possible due to the close control of the amount of head space in the bottles, and the close tolerance of the bottle volumes, when filled to the filling ring or line. It is quite noticeable, however, that the maximum pressure obtained in the bottles raises considerable in the time.

A second series of tests, given in Table 2, and similar to those recorded in Table 1, except that the



head space was reduced, show considerable difference in pressure. In this test the bottles were filled to a point ¼ inch above the water line by the addition of 2½ cubic centimeters of distilled water, reducing the head space about 20 per cent.

This second series of tests show the effect of increased pressure produced by less head space. It was thought that a longer pasteurization temperature in the bottle due to a slower heat rise, and higher initial temperature would possibly reduce the pressure somewhat, however, this did not seem to make any difference, as the final pressures were the same. The result of a single bottle is given in Table 2 and plotted in Chart 2, giving the longer period of heating as typical of the series of bottles run in the test.

Table 2

Time Minutes	Temperature °F Water Bath	Bottle	Pounds Pressure in Bottle
	Heating Up Period		
0	84	84	39
4		84	40
5 5	100	85	40 5
7 5	115	87	42
9	125	92	44
12	137	100	46
14	148	116	50
17	152	137	54
18	160	148	56
	Holding Period		
19 5	160	152	58
22	160	157	60
24	160	160	61
27	160	161	62
32	160	160	63
38	160	160	64

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This test quite convincingly shows that a slight variation in head space may alter the internal pressure considerable. Also as in Table 1 the pressure continues to rise although the temperature has reached its maximum. This condition is probably due to a continued liberation of gas.

Chart 3 is included in this report and represents the pressure obtained in three different bottles by increasing the citric acid 10%. The object of this experiment was to ascertain if the bottles would withstand a pressure of 100 pounds, a condition that might never arise in commercial manufacturing practice, thus insuring against breakage at a normal pressure around 50 pounds. No bottles in a lot of six tried were broken in these experiments.

Conclusions

Following closely the technique as prescribed in the "Practice of Pharmacy" it is safe to say that the maximum pressure used is about 30 pounds during process of pasteurization. However, this pressure is extreme as the temperature was maintained until the pressure became constant, a condition that probably will not exist in commercial practice, as the bottles would be cooled after the holding period of 20 minutes. The normal pressure rise as shown by Charts 1 and 2 is approximately 22 pounds. Also above tests show that a slight decrease in head space will increase the pressure, a condition quite apt to happen where bottles are filled with a known volume rather than to the volume line. Likewise a small difference in the citric acid content will vary the amount of pressure produced.

New Foreign Medicines

(*Continued from page 116*)

on the subject includes the article by Zschucke in Archiv f. Schiffs- and Tropenhygiene, year 1930, volume 34, pages 472ff.

The following brief remarks are given of a few of the more important of the new pharmaceutical preparations which have been brought out on the market.

Acoin is a new anaesthetic for local use. Its chemical name is di-para-anisyl-monophenetyl-guanidine-hydrochloride. The poisonous qualities of this preparation are relatively slight as compared with those of cocaine. The anaesthesia, that is produced with the aid of this anaesthetic, lasts for a surprisingly long time and does not cause any after-pains. This preparation is manufactured by Chemische Fabrik von Heyden, Dresden, Germany.

Agesulf is the name given to a complex silver-albumen-sulpho-salicylate. It is indicated in the treatment of gonorrhea. It is manufactured by Dr. H. and Dr. O. Weil, Frankfurt-am-Main, Germany.

Calcium-resorpta is the name given to a preparation, which is made from calcium chloride or calcium lactate and saponin. The re-absorption of calcium in the stomach and the intestinal canal is facilitated by this preparation according to the investigations that were made by Kifler and Fisher. The article was published in Archiv experimentl. Pathologie und Therapie, year 1930, volume 149, numbers 5/6. It comes in the form of pills for lime therapy. It is manufactured by Gehe & Co., Dresden, Germany.

Etrate are new medicinal forms of granulated extracts of various drugs. The latter can be extracted with various solvents, which are used one after the other. The granulation is obtained by drying the extracts in a current of air. One part of the etrat is equivalent to two parts of the fluid extract or ten parts of the tincture. Various preparations are etratum chinae, Spec. pectoral., Uvae ursi, Valerian, etc. These products are made by Tosse & Co., Hamburg, Germany.

Fontanon-Feminin is the name given to a preparation which contains the water-soluble principle of the female sexual hormone (ovarial hormone). It contains 50ME of the hormone. It is manufactured by Saechsisches Serumwerk, Dresden, Germany.

Perfuming Shampoos

(*Continued from page 120*)

alkalis and will not turn bad after the shampoo has been bottled.

With hot process shampoos, which when properly made and tested contain practically no free alkali, almost any type of perfume will be suitable. Nevertheless, it is better to avoid perfumes containing vanillin, heliotropin, methylanthranilate or musk xylol which sometimes discolor in alkaline solution.

(4) When incorporating a perfume in a shampoo, one has to bear in mind that shampoos are solutions of soap in water and for this reason they can only dissolve a very small quantity of essential oils; that all resinous matter and essential oils or aromatic chemicals of low solubility such as oil of ylang ylang, should be entirely avoided, if one desires to have a clear shampoo and not add difficulties to the filtration.

The quantity of perfume to use is, for these reasons, small, in fact, ½ to ¾ oz. of perfume oil is generally sufficient for 1 gallon of shampoo. If the shampoo contains alcohol, the perfume is generally dissolved in the alcohol then added to the shampoo. If the shampoo does not contain alcohol, a water soluble perfume is most desirable to use as it dissolves immediately and gives a clear solution.

The information given in this article about shampoos is also applicable to perfuming liquid soaps.

Cum Laude

I can assure you that Drug Markets Catalog & Directory has actually been worth its weight in gold to the writer already, both as a source for materials and as a reference to the same, especially the synthetics.

Z. A. MacDonald, *President*,
Marvel Products Co., Inc.,
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From time to time we have been in a position to consult with manufacturers and plan with them. The results have been consistently good. While we are not merchandising or advertising counsellors, yet we are often able to help considerably in those directions.

And as for perfuming and flavoring—there we bow to no one. After all, they are our *business.* We manufacture or import the raw materials and make the finished products that are used to *flavor or scent* household products, food products, soaps, perfumes, cosmetics and all kinds of industrial materials. Can we help you?

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Magnesium in Aromatic Chemistry

Organo-magnesium compounds are used in manufacture of the different carbinols used in perfumery such as dimethylcarbinol acetate, diphenyl methylcarbinol, etc. These products are obtained by the reaction of aldehydes upon organo-magnesium compounds. The manufacture of normal beta acetylenic acids and esters which have a violet leaf odor are also obtained from these same organo-magnesium compounds. The reaction of ketones on these same compounds lead to tertiary alcohols. Orthoformiates and formic acid reacting on them give acetals and aldehydes with extremely interesting odors. Trioxymethylene and ethyleneoxide lead to primary alcohols. All these products are interesting to use in perfumery. (Ch. Courtot, "Le Magnesium en Chimie Organique"). This is a new source of perfume raw material which should not be overlooked by manufacturers of aromatic chemicals.

Antiseptic Value of Essential Oils

When a pharmacist thinks of antiseptics he generally thinks of phenolic compounds with pungent odors, but seldom does he appreciate that essential oils have antiseptic properties. An article by R. M. Gattefosse was published shortly after the war in "Perfumerie Moderne" and assembled the large number of investigations up to that time. Subsequent investigations have been published. Oil lavender, clove, thyme, peppermint, cinnamon, etc. have good antiseptic value. However, these oils must be in their pure state and cheap adulterated oils such as are often demanded by buyers who think of nothing but price lose much of their antiseptic value. Lavender being sold on its ester content permits some sellers of essential oils to sell these oils below the market by adding perpinyl, geranyl, or cheaper esters to bring them back within the limits of the U. S. P. However, this adulteration lowers the antiseptic value. It seems that a much saner method of buying these oils for pharmaceutical purposes would be to buy them on their phenol coefficients.

Nerol

This product is not very well known, nor used very much by American perfumers, though it enjoys a great popularity abroad. Nerol has a nice, fresh, rosy odor and is used in rose, neroli, muguet and all kinds of floral bouquets. It certainly deserves to become more popular among the perfumers of this country, as when properly blended, it is the key to fresh floral bouquets.

Care of the Skin

Skin cleanliness is one of the most important steps against dermatosis. This principle, though thoroughly admitted by everyone, is not always carried out properly and is sometimes harmful when the process is repeated too often, as it becomes irritating. But the use of water alone, even warm water, is not sufficient to cleanse the skin, for soap is also necessary. Selection of the proper soap is extremely important as it must be neutral and generally does not foam very easily. The action of soap is not to saponify the fatty excretions of the skin as many people think, but to modify the superficial tension of the water, thereby destroying the adherence of impurities and fatty excretions to the skin and putting them in the water in such a state of suspension that they are easily removed. After the action of the soap, a thorough rinsing is extremely important. If the water is very calcic, the addition of a small quantity of aromatic vinegar to the water gives the necessary acidity to remove every trace of soap. Dry skin, which is very common in America because of diets which proscribe fat and fatty dishes in order to keep Hollywood figures, makes the use of cold or cleansing creams for the cleansing of the face imperative, in order to correct the insufficient sebaceous secretion of the skin, due to this diet. After the bath, a glycerin solution, half glycerin and rose water, should be spread all over the body to help correct this condition. Honey and almond milk or lotion is also very good for dry skin but the use of vanishing creams should be absolutely avoided. Such are the prescriptions of leading French dermatologists for the care of the skin.

Cosmetic Raw Materials

The cosmetician has at his disposal today, a great many raw materials. In order to help him select the proper kind of material according to the type of preparation to be made, we thought it would be useful to give him the main characteristics of the different products at his disposal. In order to make this study as complete as possible, we shall welcome the help of manufacturers or importers who are willing to bring to our attention any new raw materials they may have to offer. We shall avoid giving formalae which are generally meaningless, as a really good perfume formula is rarely published, and as everyone has different ideas about cosmetics, something that may appear good to one for a certain purpose, may not appeal to another. Suggestions are all that we intend to offer. Details will have to be worked out individually.

Perfuming and Flavoring Medicinal Preparations

Not enough attention has been given by manufacturers of proprietary medicines to the advantages that would result from proper perfuming or flavoring of their products. Sometimes, thoughts have been given to the matter by the management, but these have seen failure in many cases because the chemist or production manager was insufficiently trained in the making of perfumes and flavors and did not select the proper material. Many times the problem has been referred to some essential oil firm, which did not take into consideration fully, the nature or the use for which the medicine was intended. Why not put these problems into the hands of experts and watch the results.

New Aromatic Specialties

Some new aromatic specialties of interest to perfumers have been marketed here and abroad during 1931 by the following firms:

Justin Dupont: Palmarol, Tuberose No. 31, Muguet and Jonquille Invar.

Flora, Dubendorf Zurich: Resedal.

De Laire: Lychenia, Orchidis.

Descollonges freres: Merisia, Prunix, Tuberix.

Givaudan: Ophris base, Orchis pourpre vanille, Cucumber.

Polak & Swartz: Erasthine (a base for lilac and Muguet).

Polak Frutal Works: Hyacinth natural and synthetic.

Albert Verley: Sylvaromal, Isia, Dodecalide, Cedromal.

Ph. Chaleyer, Inc.: Rose American Beauty, Petunia, Tuberol.

Naef & Co.: Liliantheme, Polyantha, Invaria, Jasmophore.

Constituents of Hyacinth

Polak Frutal works have started in their laboratories in Holland, a study of the constituents of the essential oil, extracted from natural hyacinth flower. This essential oil has a very pungent odor and in a concentrated form is not very pleasant, but diluted or used in bouquet odors, in small quantities, it imparts to them a very pleasant, characteristic odor. The main constituents of this oil are eugenol, cinnamyl acetate, benzyl acetate, phenyl ethyl benzoate, heptyl acetate, cinnamic and benzoic aldehyde, orthomethoxy benzoates, methylanthranilate and dimethylhydroquinone. Phenylacetaldehyde has not been indentified among the constituents of the essential oil of hyacinth.

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Tamper-proof sealing is assured by the Goldy top seal. It is removed with an easy pull of finger and thumb. Yet removing means tearing the seal in two.

Snug under this top seal is the reclosure disc that securely snaps on, but this disc is quickly removed or replaced. It cannot slip or shake off. There are no threads or other indentations on the reclosure disc to get gummy or encrusted.

Alseco Goldy Seals make possible vacuum sealing. Not only that, they provide individually fitted sealing for every bottle or jar. Seated by stationary top pressure, each seal has its plain skirt tailored under the locking ring of each individual container. Result—low glass breakage, no "leakers", no "breathers".

Made of Alcoa Aluminum, Alseco Goldy capsules eliminate rusting and mineral salt deposits on the pouring surface of the bottle.

You can choose the finish you want with Alseco Seals—natural aluminum or any color lacquer. Your trade mark can be stamped or lithographed on these seals. For particulars, samples or help with sealing problems, please address ALUMINUM SEAL COMPANY, NEW KENSINGTON, PENNSYLVANIA.

ALSECO GOLDY SEALS

with RECLOSURE DISC

ALSECO SEALS
TRADE MARK

RIGHT DOWN THE LINE

THESE CORKS ARE CONSISTENTLY UP TO GRADE . . . machine cut with rigid accuracy, and sorted by skilled operators. Whatever Armstrong grade you buy, you get uniform quality year after year. No "poor" corks to jam your production line.

Tapered corks, round top, wedge top, straight, shell, or flange corks, whatever you require, you'll find that Armstrong's Corks will *always* satisfy your needs. Samples and prices on request.

Other Closures and Services

The complete line of Armstrong's Closures includes also Artmold Caps and Jar Covers, Cellulose Caps and Bands, Brass Caps, Embossed Top Corks, Crowns, Rubber Stoppers, Cap Liners, Daubers and Applicators of all kinds. From one source of supply you can obtain closures to fill every need. See photo below.

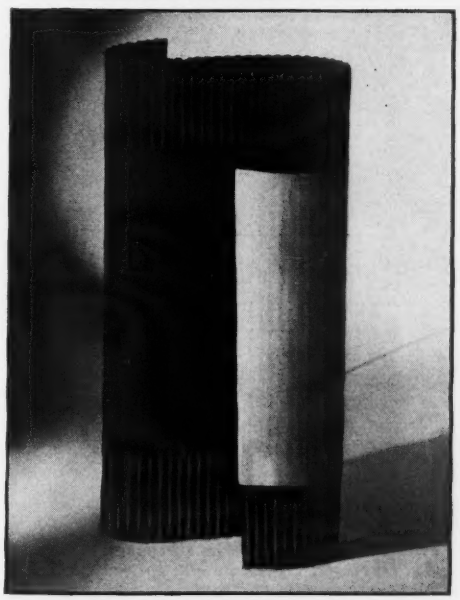
For your assistance, Armstrong offers package designing service and complete laboratory facilities for running tests on liners and closures. Let us help you determine which closure will seal your packages properly and look the smartest.

No obligation, of course. Simply send a few sample packages and full details of your problems to Armstrong Cork Company, 913 Arch Street, Lancaster, Pennsylvania.

Armstrong's Corks

Armstrong offers CORKS OF ALL KINDS . ARTMOLD CAPS . ARTMOLD JAR COVERS . EMBOSSED TOP CORKS . BRASS CAPS . DAUBERS . CROWNS DU PONT CELLULOSE CAPS . DU PONT CELLULOSE BANDS . APPLICATORS OF ALL KINDS . RUBBER STOPPERS . CAP LINERS . BUNGS

Photograph by Adams Studio, New York City, by courtesy of Advertising Arts Magazine.



This is the BILLOWRAP (patent applied for). The only corrugated wrapper with flexible flaps for end tucking, consisting of extensions of facing of corrugating element. Made any size, practically any color desired, to harmonize with color of product or label.

See BILLOWPAK at the Packaging, Packing and Shipping Exposition, Booth 211, March 7-12, Palmer House, Chicago.

NEW! MODERN! COLORFUL!

BILLOWRAPS dress up famous products

BILLOWPAK (as a plain liner, or in the form of BILLOWRAP) embellishes your product with color harmony, or contrast, as you prefer, while giving it the protection afforded by the purely utilitarian forms of packaging materials. Yet its cost is surprisingly small.

The BILLOWRAP at the left is a miniature of the actual size used by Pinaud, illustrated in the photograph above from Advertising Arts, who say editorially:

> "Retaining their traditional bottles, Eau de Quinine and Lilac Vegetal have been considerably brightened and modernized by means of a new wrapper. Instead of the usual cardboard box, a bright green BILLOWRAP and decorative wrapping tape now enclose the bottles. With better dressed merchandise becoming an increasingly important sales factor, we shall probably hear more of this idea of dressing up the wrapper."

Make it a point to mail the coupon for samples and complete information on BILLOWPAK right now. If interested in BILLOWRAPS, advise size required, and we will furnish samples and quotations. BILLOWPAK in white or in bright colors, can be furnished die-cut and scored, with various types of backing.

BILLOW PAK

REG. U.S. PAT. OFF. AND FOREIGN COUNTRIES

THE NEW COLORED DISPLAY MATERIAL

KIMBERLY-CLARK CORP., Mfrs., Neenah, Wis.
Address nearest sales office at:
8 S. Michigan Ave., Chicago
122 E. 42nd St., New York City

Send samples of Billowpak; colors _____

Company _____

Attention of _____

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DM-2

CHASE

CAP THE CLIMAX.. when the product is right and the container is right you have reached the climax of your package. Cap it with Consolidated Closures — the important new Faith Avery treatment line designed by Ruth Hooper Larison for the Zanol Products Company uses Consolidated Caps exclusively — as do other discriminating manufacturers.

CONSOLIDATED SAFETY PIN CO.
BLOOMFIELD, NEW JERSEY
Owned by the makers of Chase Brass
NEW YORK SHOWROOMS: 200 FIFTH AVENUE

Powder Packages

By Francis Chilson

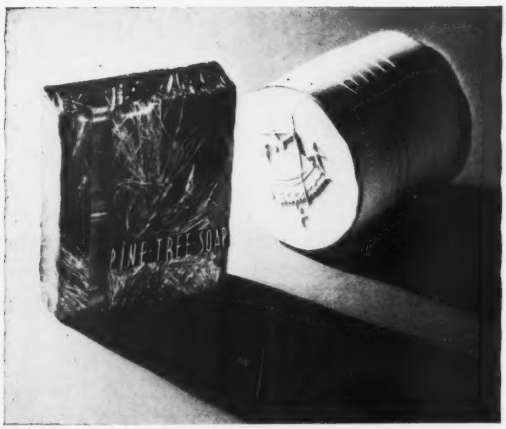
A comprehensive discussion of face powder packages from all angles—various materials used, with advantages and limitations; how packages of all types can be handled in production; considerations from the consumer's viewpoint.

FACE powder boxes fall into two general categories: full telescope and shoulder boxes. Although they are made from metal, wood, glass, and moulded plastics, the most common material is paper. Aside from considerations of expense there are a number of factors contributing to the popularity of the paper box, among which are: an almost unlimited range of design; relatively dust-proof; easy to handle in production. However, the paper box is not the only type suited to this purpose; there are a number of technical factors favoring other forms of materials which up to now have had serious economic or decorative drawbacks.

Face powder boxes should be well designed, as they undergo more constant usage than any other form of package. Calculating the average turnover of the industry as 4, the face powder package is a matter of several months in passing from the factory through various distribution channels to the consumer, and, in the hands of the consumer the package life has only just begun. For a period ranging from a quarter to a full year the package will be handled daily by the user. Usually it is placed in a drawer along with toilet cream jars and the other paraphernalia of make up. During this period the box must withstand constant handling and it must—but usually does not—give sufficient protection to the contents.

Volatile perfume oils in face powders are not only

Interesting things are being done in applying the possibilities of celluloid to the container field. The chief assets of this material in packaging seem to lie in its parctically limitless color range, its adaptability to fine lettering and other decoration, and its workability which permits of wide applications in many shapes and forms.



Two suggested toilet goods packages, the first for a pine tree soap utilizing a photographic reproduction of pine needles in black and white to suggest the value of the scented soap; the second, a plastic jar for cold cream designed with the depth of the bathroom shelf or bureau drawer in mind, introduces a new type of labeling, in the form of bas relief or embossing upon the container. These packages are among those included in the current exhibition of modern packaging arranged by George Switzer, New York and Paris designer, in his studio at 210 Madison ave., New York.

A new metal closure has been designed by the Re-Seal-It-Metal-Cap Corp., New York. The chief advantages of this new development are said to be that it is labor-saving and self-sealing, since it may be snapped on and off and requires no other manipulation to effect a closure. The overlapping fingers of this cap not only take care of slight variations in glass, but also act to seat the cap automatically when snapped on. The caps are at present finished in bright tin, polished aluminum, or gold-lacquered finish with liners to meet requirements of the contents. Two of its present applications in this industry by Bristol-Myers Co. and Eastern Pharmacal Co. are reproduced here.

To Riegel Textile Corp., New York, must probably go credit for the most ingenious package of the month. It is a new idea in a bandage roll which, by a half turn of one end of the package ejects the end of the bandage, as illustrated. After the bandage roll has been used, the remaining bandage is cut, leaving an end of about two inches, the end of the package is turned in the opposite direction, and the bandage disappears.

absorbed by the box itself, but will evaporate very readily once the box is opened. Compare a box of powder in use for three months with a fresh one and it will be seen that the former has lost most of its perfume. Very often even this diminished odor is not due to the residue of perfume still in the powder so much as to the perfume which the box has absorbed. This can be perceived when the contents of a box of powder are removed and smelled away from the box. The powder removed from the box has not the odor strength it had while in the box, while the box itself will give a stronger odor than the powder.

Preservation of face powder perfume is important as few women can differentiate between face powders except by odor. When a woman has purchased a powder to which she was attracted, she will be resentful if it loses its odor very readily.

Lining Boxes

It seems likely that this subject will be given more attention in the future and that we shall begin to see face powder boxes lined with parchment, oil proof glassine and cellulose papers, tin and aluminum foil etc. Lining face powder boxes with insulating material presents no problem to the box manufacturer so long as his customers will pay the higher price. Reluctance to do so, however, has been due more to lack of understanding of the importance of the problem than to economic considerations. Throughout the industry are found a few large manufacturers who do understand the importance of the problem and make some effort to meet it. Twenty years ago Roger & Gallet brought out a face powder box constructed as usual of paper but containing an aluminum inner box to hold the powder. In doing this the company combined the highest decorative values with a means for preserving the delicate odor of the powder during the process of distribution and also during consumption. It is significant that the president of one of the largest cosmetic firms in the country and a competitor of Roger & Gallet carried this inner box in her traveling case for twenty years. It protected the powder, it was unbreakable and it would not readily sift.

At various intervals during the past decade several manufacturers have tried to abandon the paper box because of its tendency to absorb perfume and because of the reaction of the sizing with the perfume. But their experiments have not on the whole proved successful. Marinello tried a glass jar and abandoned it in favor of a paper box because the glass jar not only lacked decorative value, but was impossible to carry about in a traveling bag without spilling; breakage was excessive and the container extremely difficult to seal owing to inevitable variations in glass. This particular powder jar had a glass cover, which was adopted because it provided an opportunity to adopt a distinctive shape. To have used a round jar with a metal or plastic cap would have made the jar indistinguishable at first glance from a cream jar. Pinaud is using a plastic box not because of the necessity for preserving the perfume but to get away from the usual in powder boxes. This box is lined with a paper shell and drum.

A most important element in powder box construction is visibility so that the purchaser can tell what shade of powder she is buying. This would not be so essential were it not for the lack of standardization in shade terminology. One manufacturer will call a particular shade peach; another will call that same shade rachel foncé and still another may call it youth-glow, and so on.

This visibility is achieved by introducing a window of transparent cellulose in the top of the drum, the side or bottom of the box; or else, the entire top of the drum is made from this material. Lancheré recently brought out a box with a window in the bottom. This position was selected to prevent removal of the full telescope cover, which is covered with transparent cellulose tucked in under it, and which would be torn off in removing the lid. Placement of the window in the side of the box is not practical when a round box is used because the hole must go through the wall of the drum, the bottom, and also the top—all of which must be lined up exactly in order to give both visibility and neatness. The square box could be made in this way and would cause less difficulty in matching up, but the cost in any case is enhanced owing to the fact that the window must be in the drum in addition to the top. It is obvious that an unprotected hole in the side of the drum could not be left open as much of the powder would come out before the box could be assembled.

Dust Proofing

The next consideration is dustproofing. In this consideration the full telescope has an advantage over the shoulder box because of friction contact from shoulder to heel. The dustproofing of a box is relatively easy to achieve in production because it can be effected by simply gluing the drum to the wall of the bottom. If the glue is placed in an *unbroken* ring around the inside of the wall of the bottom before it is pressed down over the drum, there will be no danger of sifting. But the sifting problem, while important to the plant manager and to the distributor, is even more important to the user, especially if she travels.

Once the drum is torn, how is the box to be protected and how can it be carried without spilling? Here again the full telescope has an advantage over the shoulder box because of its tighter fit.

Some manufacturers in their anxiety to take full advantage of transparent wrapping have gone to an impractical extreme in making the cover loose enough so that the ends of the wrapper can be tucked under it before putting it on. A full telescope or any other box should have a tight cover and the wrapper should be twisted or pleated across the bottom.

Box construction is important from the factory viewpoint. As a rule the drum is glued to the box bottom. The drum may be constructed with a ledge

to admit pasting piece of paper across it to effect a seal, or the ledge may be eliminated and the drum wall glued to bottom wall. In both cases gluing surfaces must be absolutely free from powder or there will be no adhesion. This is partly a filling problem, partly a construction problem. Some manufacturers, especially those selling a cheap powder, do not take the trouble to cement the parts together, nor do they care particularly about sifting. But when the box is covered with a high priced paper—suede or the like to which powder will cling stubbornly—and also those covered with silk facings, prevention of leakage and sifting is extremely important.

Removing Dust

Now removal of dust is not easy especially when accomplished by machine. If done by hand the wiping of the gluing deck of the drum or its walls is a slow process because of the care which must be taken not to spill powder. When this surplus is to be removed by brushing or by vacuum a number of considerations affect the box construction. If a bottom ledge is used and the surplus brushed off with a revolving brush, the ledge must not be dished or the brush will pass over it without cleaning it at all. When vacuum is employed, the powder must be packed into the box and a mechanical means provided, to insure that only the surplus on the deck or walls will be sucked up.

The manner in which powder boxes are shipped from the box makers is also important. If the box comes assembled it must be separated before use. If it comes unassembled with all the parts in separate cases there is danger of warping. In the former case the boxes should be assembled if possible with the drums upside down so that they can be separated easily. If the drum is right side up it is not only difficult to remove but there is danger of puncturing it. The process of dis-assembling the boxes can, however, be effected mechanically without much trouble.

A suction device fitted with a vacuum pump and an alternating control can be rigged so that it will hold the box cover held against it in such a fashion that the bottom can be withdrawn. The alternator then automatically releases the cover so that it drops on a conveyor or into a box. The drum is removed in the same way. Hudnut has built a very ingenious machine for dis-assembling face powder boxes.

When boxes are shipped completely assembled they not only are kept from warping, but they occupy a third of the floor space required for dis-assembled boxes.

When boxes are shipped dis-assembled they are less economical to handle as they require not only more space, but a vacuum cleaning operation before use. Invariably they will contain dust even when shipped in dust proof cases. If dust does not get in from the outside it forms from fine paper lint from the boxes or the corrugated cases in which shipped.

Factory considerations should be taken into account in designing box coverings as some surfaces will attract and hold dust, which, from the rougher ones is impossible to brush off. Although powder rooms and equipment have been improved vastly in recent years, the packaging operation is still dusty and a certain amount of dust is always present in the air regardless of precautions taken.

The following outline illustrates the sort of treatment a powder box is given in packaging.

In the old days (and this process is still followed by some smaller manufacturers) the drums were lined up in a deep wooden box, powder poured in, cover placed on and box jounced until drums were filled and settled. The box was allowed to set for a time to lay dust; then lid was removed, drums wiped off and surplus poured into powder bin for the next go. The shortcomings of such a method are too patent to warrant discussion.

Then came the one and two stage auger powder fillers, semi and full automatic. Semi automatic machines are designed so that an elevating table lifts the box in such a manner that the discharge nozzle goes down into it; the auger turns a certain number of times as the box is lowered, and stops when the box is full. This machine is of course quite dusty but later models have been improved so that dust is minimized and a solid pack secured.

The early two stage machines delivered part of the charge at the first station, after which the box passed over a vibrator that settled the powder, and the fill was completed at the second stage. The shortcomings of this arrangement became evident very quickly. Vibrators jounced the drums so enthusiastically that most of the powder was spilled. Later these were modified so that each stage delivered and packed a full charge, each filling an alternate box.

Fixing Amount of Contents

There has as yet been comparatively little attention devoted to the amount of face powder actually contained in each box. Most manufacturers are concerned with giving a solid pack which will not settle when the box has stood a month or two. To secure this more than vibration is necessary, the powder must be packed into the box from the bottom by means of an auger or plunger. The latest style auger machines make provision for this packaging, and are fitted with baffle plates so that the powder will not spurt over the box sides.

In order to keep the finishing room as dustless as possible the filling machine should be isolated in a dust-proofed room or else encased in a dust-proof hood. In this way it is possible to effect a layout which will provide for delivery of filled and dusted drums ready for gluing and assembly of bottoms and tops.

In gluing the bottoms and drums it is customary, as stated, to place a ring of glue around the bottom wall

(Continued on page 152)

A Modern Note

By Lillian S. Dodge*

AN ATTRACTIVE new package that has met with immediate public acceptance is the Beautifying Face Powder of Harriet Hubbard Ayer, Inc. This was created to introduce a new blend of powder, and so marks the launching not only of a new package, but of a new product, and further, the addition of several new shades to their range of powder colors. The powder itself demonstrates a decided advance in powder making, being absolutely smooth and even in texture, non-streaking in color, and while it has the delicacy of a very light weight powder, it adheres to the skin as well as a heavy one. The scent used in Beautifying Face Powder is that of the latest Harriet Hubbard Ayer perfume Apres Tout.

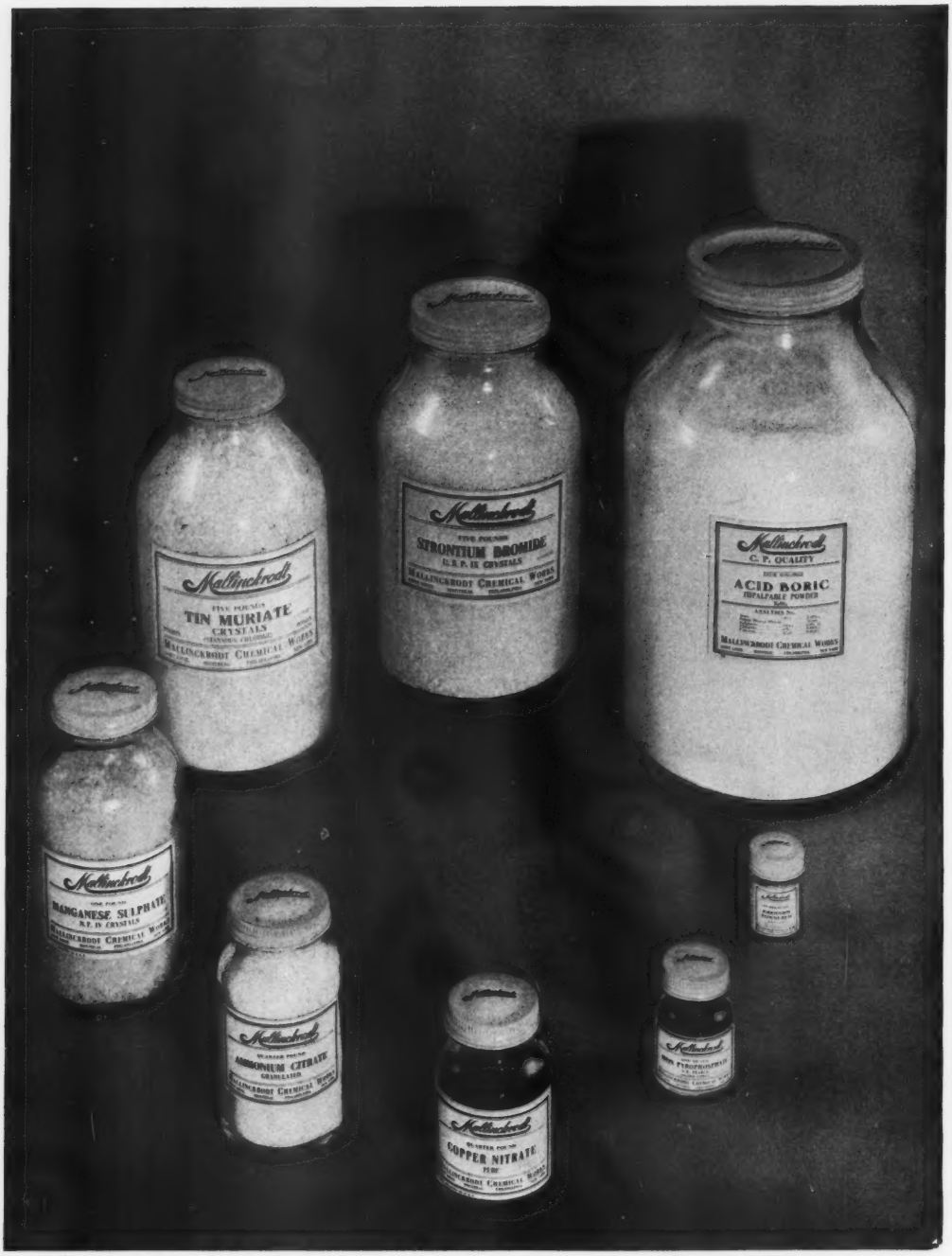
The Beautifying Face Powder box is executed in a glazed cream colored paper with the lettering die-stamped in gold on the cover, and with the familiar HHA monogram appearing in gold on the top of the drum underneath the cover. The box is twelve-sided with an extended shoulder, edged also with gold. This shoulder has a decided practical advantage in lessening suction when the lid is removed, which prevents spilling of the powder.

Beauty and utility are further combined in this package by reason of the quality and finish of the paper covering. In order to preserve the fresh and dainty appearance of the box when it is in use, dust and smudge can immediately be removed with water without affecting the paper.

The Harriet Hubbard Ayer Company previously had eight packages of different style in their powder series. The three most popular of these, Luxuria Powder, Ayeristocrat Theatrical Powder and Harriet Hubbard Ayer Powder, are pictured here. While the new Beautifying Face Powder package is of entirely different design than these and others in the line, the Company did not depart from their traditional color scheme of black and white, black, white and gold, and cream and gold in introducing the new box.

A survey of dealers and retailers handling this line shows that the new powder in its attractive box has been an outstanding success, without noticeably affecting the great popularity of the three older, better known powders.

*President, Harriet Hubbard Ayer, Inc.



Courtesy "Phoenix Flame"

Fine Packages

For Fine Chemicals

Bottles varying in size from one-quarter ounce to ten pints follow the same design to give convenience, practicability and beauty to the laboratory package.

Utility Packages

Packages used only by the pharmacist and chemist are redesigned so as to make them more convenient, practical, and attractive. Also especial care was taken to protect products from the action of light rays.

A BLACK LACQUERED AND A TRANSPARENT BOTTLE

CONVENIENCE and attractiveness appeal to the retail druggist and the chemist just as they appeal to anyone else. Such was the thought in mind when Mallinckrodt Chemical Works contemplated a change of design in their bottles used in packing the six hundred and eight dry chemicals which are used for prescription, photographic and general chemical laboratory work. That the thought was an actual fact has since been proven, first by taking the new containers to the retail druggists in St. Louis before it was adopted, and finally by the reception given the new containers all over the country when they were finally adopted.

The change of package is from the old-style square shouldered, cork stoppered used generally for packaging dry chemicals for years gone by, to a unique type of squat jar shaped bottle closed with an enameled screw cap. The advantages are stated to be: easier to open and close; eliminates dust, dirt; reseals air-tight. Furthermore, the bottle is better than the old square-shouldered type from which it was difficult to remove the entire contents. The new bottle, which is used in sizes from ¼ oz. to 10 pints, permits a free flow from the package, and, when a spatula is used, the wide mouth and sloping sides do not interfere. Beside these advantages, there is the obvious fact that the new package is far more attractive than the old.

THE NEW AND THE OLD

Prior to adopting the new package, tests were made by Mallinckrodt on the six hundred and eight items to be packed in the new bottle. For a period of eight months, over 5,000 samples of these chemicals were observed under varying conditions in these packages so as note if there would be any change. In testing the feasibility of using a screw cap, three samples of each chemical were put up with each of three different screw cap liners. An attempt was made to duplicate the kind of handling the bottles would receive in ordinary use only under much more severe conditions. At the end of each seven days, for a number of weeks, the bottles were opened and a portion of the chemicals were poured out on clean pieces of paper and then poured back into the bottles. Boys doing this work were instructed not to wipe the bottle necks after pouring back the salt. As a result all the screw threads on the bottles quickly became covered with salt so that during the major part of the test the salt was pressed between the bottle and cap itself.

After the end of the test period all containers and chemicals were critically examined. It was found in each case that at least one or two of the three types of liners had perfectly protected both the chemical and the cap from deterioration and corrosion. These two types of liners were, therefore, adopted to seal all the items, adopting in each case the one most suitable.

Simultaneously with these tests another experiment was made to determine what items should be packed in such a way that the light could not affect them.

(Continued on page 150)

Difficult

Labels should not be designed into account when designing There are certain very definite These factors are pointed out illustrations of difficult to

WHEN new package designs are adopted more difficulty arises through failure to consider the necessities of the labeling operation than through omission of other kinds. One reason is that labeling is influenced by many different factors all of which must be harmonized if the operation is to be successful. Weight and porosity of label stock; color and its distribution and susceptibility to action of adhesives; size of label in relation to space upon which it must lay; nature of design in relation to shape of package; shape of labeling surface on container; nature of printing inks and their ability to endure handling; shape and position of label; accuracy with which container is made; etc. etc. All these factors enter into the design of a label intended for machine application.

Failure to consider all factors may result in a labeling job which is not neat and which ruins the appearance of the package. Moreover, production may be delayed owing to the necessity of constructing new machine accessories, and in extreme cases the construction of label design may force the abandonment of machines, or the scrapping of the labels or containers.

To indicate some of the more difficult labeling problems which have been mastered by the machinery builders the following examples are given:

Woodbury's Facial Freshener in ten cent size is labeled on an automatic machine at the rate of 65 bottles per minute. Front and back labels are applied at the same time. The front label presents a problem because of the slope of the panel toward the neck of the container. The set, back modernistic design of this label and its unusual length are such that the slightest degree out of register would be very conspicuous.

The Nonspi bottle is labeled on a semi-automatic machine at the rate of thirty per minute. It presents a problem of a different kind in that the bottle is not true. Close examination will show that the neck is

Labeling

solely for their good looks. considerations to be taken labels for machine application. in this article using actual label packages.

not perpendicular and that the front and rear panels are not exactly the same size. The result is that when the bottle is turned over the label on the opposite panel is off center. In order to get accurate register of both labels it was necessary to construct special accessories in order to compensate for the variation.

The Socony Furniture Polish bottle is labeled in a semi-automatic labeller at the rate of thirty-six bottles per minute. When the bottle was designed a debossed panel was provided which is too long and curves toward the heel. Consequently the label made to fit the panel had to curve also. This made it difficult to "wipe" on and special accessories had to be made to provide for pressing it on.

The ampule presents a very difficult problem to perform at the rate of thirty-six per minute because of its extreme fragility.

The Cutex Liquid Nail Polish bottle is labeled automatically at a rate of 144 per minute and is extremely difficult, because of its small size, to hold in place while being labeled at such high speed.

Campana Italian Balm illustrates a common error, that of designing the label so that it comes all the way from shoulder to heel. When labeled automatically at a rate of 120 per minute the danger of poor register is enhanced.

The Odorono bottle is labeled automatically at a rate of 120 finished packages per minute each with two labels the back one of which is an outsert. Aside from considerations of speed the pointed top of the label makes accurate registry difficult and a slight variation off center would cause the bottle to look lopsided.

When a manufacturer insists that his name be embossed on the bottle, especially across the bottle horizontally, many difficulties are presented because the label must be spotted, either on the plain side of the bottle as in the case of the Vaseline bottle, or what is worse, directly beneath the name as in the

case of the Listerine bottle. In the latter instance the slightest degree off center will look very conspicuous. In an automatic machine the bottles must be spotted automatically which is not easy at very high speed; in a semi-automatic it is also difficult for the operator to place the bottle on the rest so that the label will register exactly in the center. If embossing must be employed it ought to be placed on the shoulder of the bottle around the neck so that it will not be necessary to spot the label.

Applying a Metal Label

The Three Flowers cream jar represents a difficult labeling job of a different order. Here the problem was to apply a metal label at a rate of 18 a minute in such a fashion that it would stay put. To do this a special machine was developed which holds the label firmly until the adhesive sets.

The Elmo Cream jar is labeled at high speed in a full automatic straightaway labeler. It presents a problem not only because the label is a wrap-around but also because it fits rather snugly against the top and bottom beads.

The Stayset Hairdressing bottle is also labeled automatically. Its difficulty lies in the fact that front, back and neck labels must be applied at once and also because the front and back labels lie in deeply debossed panels which curve toward both heel and shoulder.

Whites Codliver Oil Concentrate (tablets) presents a difficulty because the bottle is finished with knurling, which prevents smooth uniform distribution of the glue. Also the sides of the bottle are convex where the label is lapped. Nevertheless, the lapping and gluing are both neatly accomplished automatically at high speed.

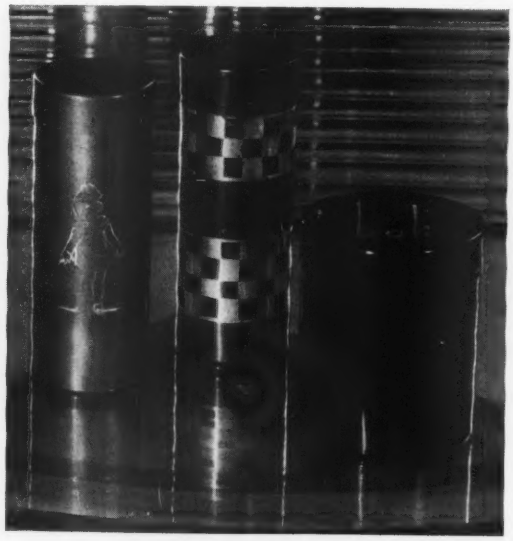
To summarize: What are the considerations to be taken into account when designing a label for machine application ?

Designing Labels

To begin, the ideal label surface on any kind of container should be flat or cylindrical. Label surfaces which are uneven and which curve in two or more directions are certain to give trouble. The label stock should be suited to the method of application. This will require light stock in some cases, heavy stock in others. If the label is wiped on the stock should be light; if pressed on it may be heavier, A heavy foil or metal label may be applied by pressure to a certain type of surface; a light paper stock can either be pressed or wiped on depending upon available labeling equipment. The printing inks used in the design should not be susceptible to attack by the adhesive, nor should they mar easily when in contact with the label applicators. The design itself should not be such that absolute registry is required in order to secure neatness. The size of the label should be smaller than the panel; it should not cover the panel to its very edges. Labels with long projections should be avoided, so also should perforated labels especially when the perforation will weaken the label, cause it to lock or show beads of glue along the inside. And finally it is just as easy to design a container with a good labeling surface and a label that will permit machine handling as it is to design a package which cannot be handled by machinery. Considerable more care is necessary that is all. In short the package should be *planned* scientifically—no element should be omitted from the study.

Oxide Coating Gives New Color Effects On Aluminum Containers

NEW possibilities in packaging cosmetics are opened by the coloring of aluminum. Previously, color effects on metal containers have only been possible through enameling, but the Aluminum Company has developed a new anodic oxide coating in black and other solid colors and also printed with stop-off ink to get beautiful effects. This process is relatively new and the printing



with stop-off ink to get various effects is still in the experimental stage although it is expected to be perfected within a short time.

The illustration shows several "Alumilited" aluminum containers. The shortest jar is finished in black while the others are in maroon and gold. The lettering on the top of the one has been debossed, while the designs on others have been obtained by the new printing process. The "Alumilited" container has a high sheen not possible with enamel and a hard finish highly resistant to scratching, etc. It is non-absorptive, compact and light in weight and makes a beautiful appearance so necessary in a cosmetic package.

Colored Glass

The length of time necessary to test the protection effected by various colored glasses is often a serious handicap to proper selection of containers. Mr. Lester describes a rapid method of making such tests.

By W. R. Lester*

A GOOD many pharmaceutical preparations are decomposed or affected in one way or another by the action of light of radiations below about 5000A° and require protection which in most cases is afforded by means of special colored glasses.

Testing the glass to be used for this purpose by the means of storage tests is a long and expensive method, while the spectroscopic method, although being ideal, is not available to the ordinary pharmaceutical manufacturer.

The darkening of photographic paper being a photochemical reaction caused by radiations below about 5000A° makes a quick, simple and satisfactory test for the testing of radiations from about 5000A° to about 3000A°.

The testing may be conducted as follows: a small box about 4″ x 4″ x 2″ is made, having a removable back and a glass window in front. Window glass having a green tint when viewed on edge transmits radiations down to about 3000A°. About 0.5″ in back of the window a slit is made in the box and runs through the top and down the two sides of the box. A tin slide is made that will fit flush in this slit. The inside surfaces of the box are painted black.

The glass to be tested is cut into small squares and cemented on to a piece of black cardboard. A round hole about 0.25 in diameter is cut in the cardboard exposing a round circle of glass. A blank hole should be made and a standard glass sample run at the same time for comparison. The cardboard containing the sample is then placed on a sheet of photographic paper (Velox No. 2 glossy has been found satisfactory) and the two thumb-tacked to the removable back, which is then placed in position. The handling of the photographic paper must be done in a dark room.

The box with the slide in place is then placed before a suitable light source of exposed. The time of exposure depends upon the light source and the type of glass being tested and is best determined by trial. For example: If the photographic paper is not affected by an exposure to the above region, using an arc lamp as the light source, in five minutes, all future tests must be run on this basis, keeping constant the light

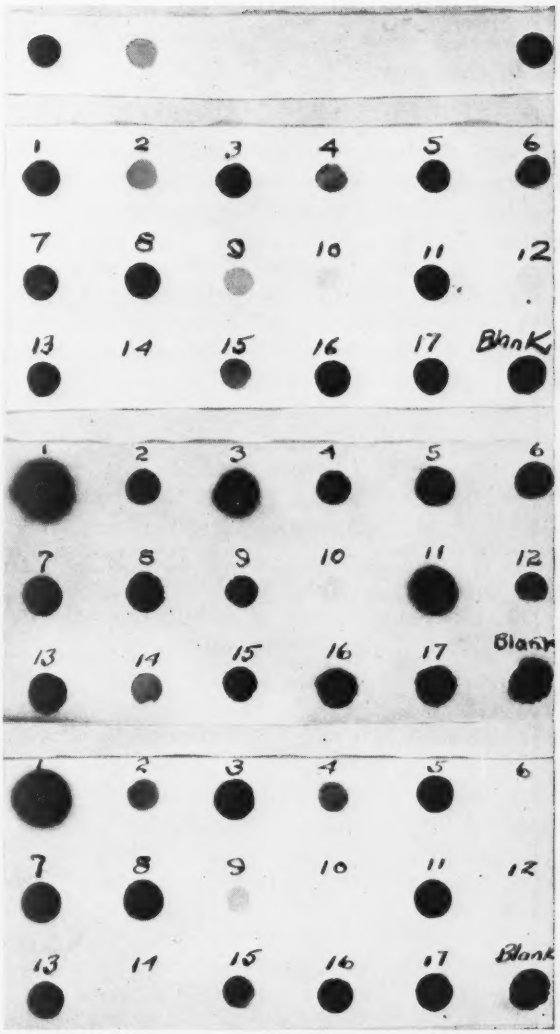


Fig. 1 (top row) spot test of Wattan filters. Fig. 2 (next 3 rows) spot test of colored glass. Fig. 3 (next 3 rows) spot test of colored glasses using sunlight. Fig. 4 (last 3 rows) spot test of colored glasses using near ultra-violet from sun

*Maryland Glass Corp.

source, time, and distance of paper from the light source in each test.

After exposure, the paper is then developed and fixed in the usual way. A comparison is then made of the spots, the darker the spot than the standard the less satisfactory is the protection afforded in this region.

This procedure may be modified by the use of suitable filters, making it possible to test any set of radiations in the blue, violet, and near ultra-violet portions of the spectrum. It must be remembered, however, that each portion of the spectrum does not exert the same effect on the paper. In other words, the time required for the region between 5000A° and 5400A° to darken the paper to the same degree as the region between 4000A° and 4600A° is very much greater. This must be kept in mind when comparing results obtained by the use of filters.

Fig. 1 shows a spot test of five Wratten filters and a blank exposed for ten seconds to a 200 watt Mazda lamp. Filter No. 24 has not permitted any light to pass, while the spots from filters No. 21 and No. 12 can just be seen. Fig. 2 is a spot test of seventeen colored glasses taken in the same manner as the Wratten filters. Fig. 3 is of the same glasses but taken with noonday sun but with a 0.1 second exposure. Fig. 4 is also the same series of glass taken in the same way as Fig. 3 but using a filter that cut out all radiations except the deep violet and near ultra-violet. The colors of the glasses are given in Table 1.

These spot tests are very interesting, as they show how little can be told from the color of the glass. Table 2 is an attempt to classify the opacity of these glasses to the blue and ultra-violet radiations.

If it is necessary to check the spot test in the near ultra-violet region, it may be satisfactorily accomplished by the means of a photochemical reaction that is both simple in procedure and accurate.

The photochemical decomposition of aqueous oxalic acid solution sensitized by uranyl sulfate has been investigated by Anderson and Robinson[1] ([1]Journal of the American Chemical Society, Vol. XLVII, No. 3, March 1925) and is caused by the ultra-violet. The reaction has a low temperature coefficient.

The test is conducted as follows: Solution A is made up of exactly 6.3g. of pure tested oxalic acid crystals and 4.27 g. of uranyl sulfate (UO^2SO^4 $3H^2O$) dissolved in distilled water and diluted to exactly one liter and standardized with O. 1. N solution of potassium permanganate. Solution A must be kept in the dark.

A known amount of solution A is placed into a pyrex test tube and the tube inserted into the ware under test, making sure that the glass entirely protects the solution. The solution is then exposed to a light source rich in near ultra-violet. A suitable light source is the quartz mercury arc. Radiations below the near ultra-violet must be filtered out with a piece of window glass. The time of exposure and the distance from the light source are standard in each test. After exposure the solutions are titrated with the 0.1 N potassium permanganate and the loss in oxalic acid calculated. Table 3 gives the results of a test on a series of glasses exposed to the near ultra-violet for a 3.5 hour period.

Table I

Glass No.	*Glass Color*
1	Blue
2	Blue
3	Purple
4	Purple
5	Greenish Blue
6	Greenish Blue
7	Blue Green
8	Green Tint
9	Green
10	Green (yellowish)
11	Green
12	Green (blackish)
13	Amber (light)
14	Amber (dark)
15	Amber (medium)
16	Flesh
17	Yellow

Table II

		Opacity to the
Glass No.	*Blue Region*	*Near Ultra-violet Region*
1	Poor	Poor
2	Good	Good
3	Poor	Poor
4	Fair	Fair
5	Poor	Poor
6	Fair –	Excellent
7	Poor	Poor
8	Poor	Poor
9	Good	Good+
10	Excellent	Excellent
11	Poor	Poor
12	Good	Excellent
13	Poor	Poor
14	Excellent	Excellent
15	Fair	Fair–
16	Poor	Poor
17	Poor	Poor

Table III

Original solution required 9.95cc 0.1 N KMnO4

Glass Color	*cc 0.1 N KMnO4 required after exposure*
Blue No. 1	7.80
Blue No. 2	9.95
Amber No. 2	9.70
Amber No. 1	8.55
Green No. 10	9.95
Green No. 9	9.20

Eastman Announces "Kodapak"

Eastman Kodak Co. has announced the production of "Kodapak," made from cellulose acetate produced by the Tennessee Eastman Corp., Kingsport, Tenn., a subsidiary. The new product is said to be able to withstand liquids and variations of temperature and is said to be limp and thus easily folded around corners of packages. Its appearance is described as brilliant and glass-like, with a silvery tone when crumpled.

Packaging Boncilla

THE extension of the Boncilla line of cosmetics from the firm foundation of the international reputation of Boncilla Clasmic Pack to a complete line of cosmetics for complete scientific hygiene, called for a beautiful, but uniform and properly designed set of packages for the various items to be included. Calling the line "Mark Q," Boncilla first had submitted to them designs from various schools of design and by various free lance artists. Receiving nothing in which they were especially interested, they finally engaged the services of Colin D. Barrett, formerly a designer for Tiffany's, and later for Gorham Manufacturing Company.

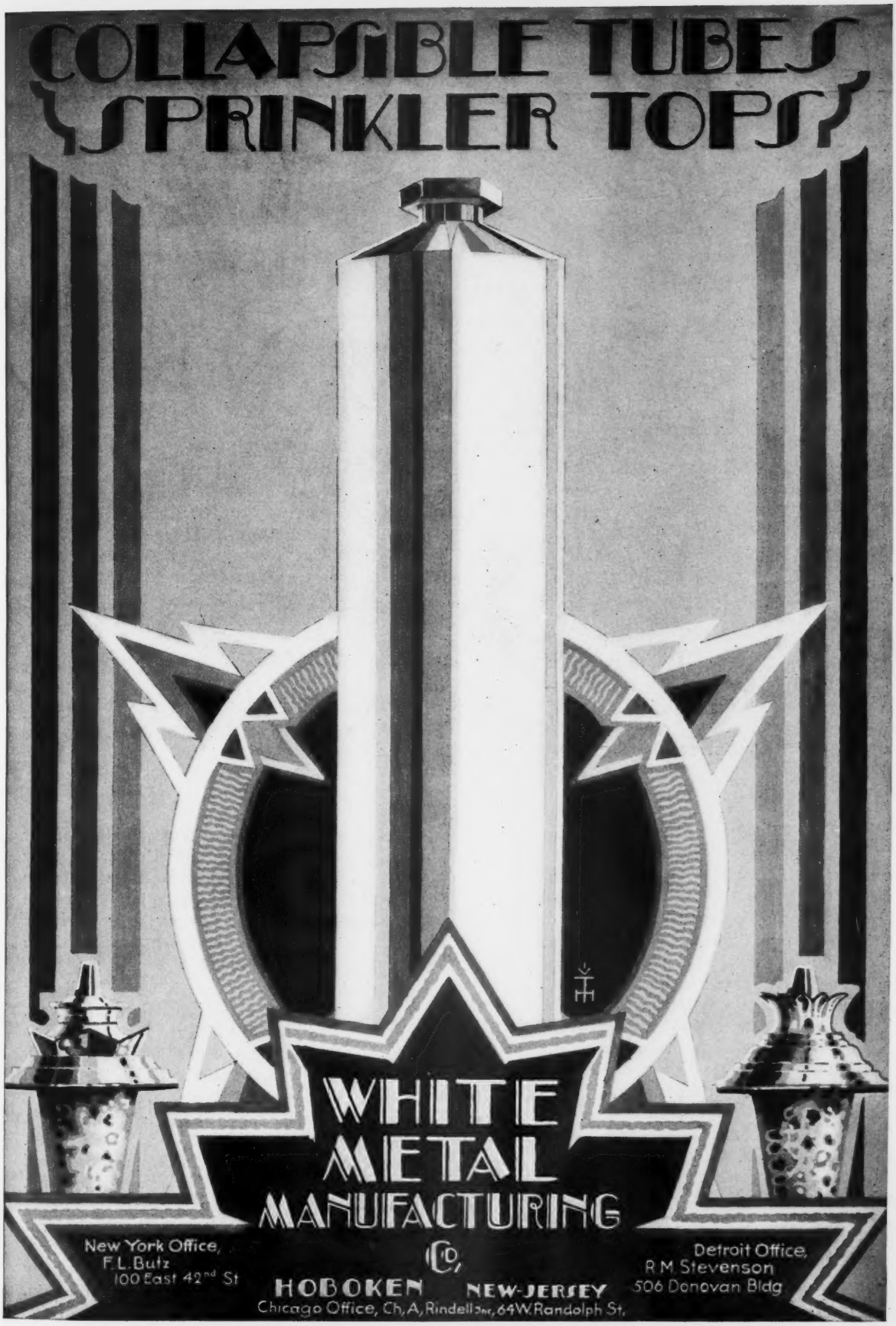
Wisely, however, Boncilla did not overlook the problem of manufacturing the packages which the artist designed. Therefore, they called in to collaborate with Mr. Barrett, R. L. McKnight, production manager of the Scoville Manufacturing Company. That the problem of ease of use of these packages in Boncilla's packaging operations in their plant was not overlooked is evidenced that the two men called in collaborated in perfecting and developing Boncilla's own ideas of what the packages should be.

The packages are interesting in that the cream jars have covers which fit over the entire top and sides of the jar, being sealed with a liner as is the ordinary screw cap. The dominating color is green with all but one of the creams being packed green metal covers, and the face powder in a green paper box. The original Clasmic Pack, which was the basis of the entire line, stands out from the others because of a

(Continued on page 150)

Zanol's New Dress

Probably one of the most effective and thorough packaging jobs of recent months, and one which has already been accorded considerable publicity, is the one by the Zanol Products Co., Cincinnati. The illustrations show the "Faith Avery" line of toilet preparations, and the old and the new "Dream Girl" talcum powder cans. "Faith Avery" picture courtesy of Consolidated Safety Pin Co., and "Dream Girl" picture courtesy of Metal Package Corporation.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WHITE
METAL
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HOBOKEN NEW-JERSEY
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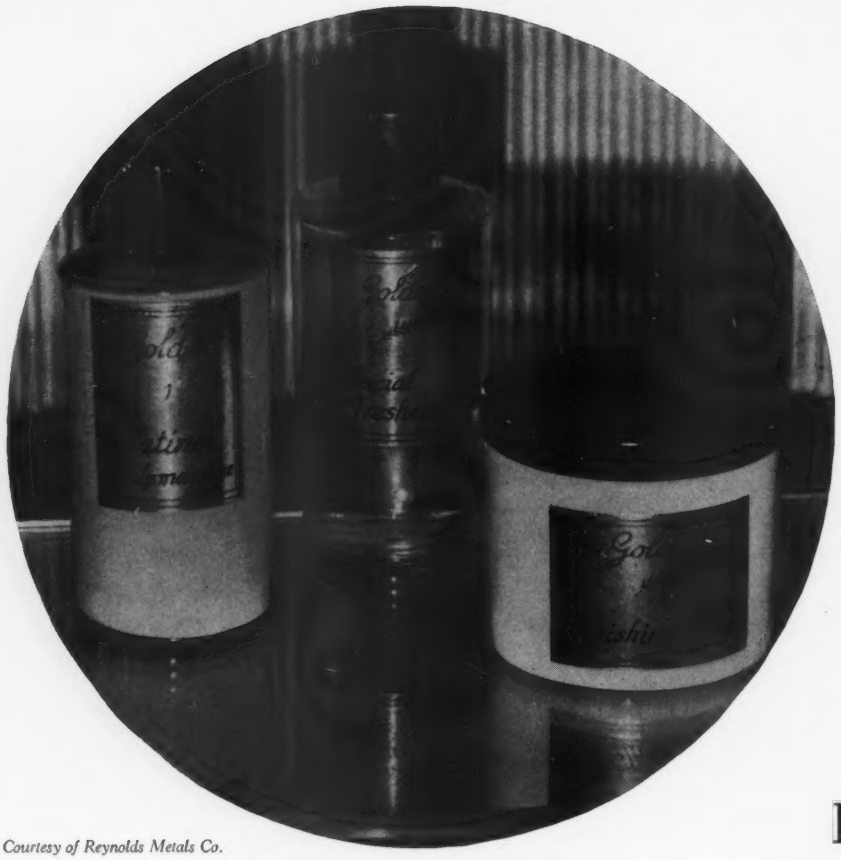

Courtesy of Reynolds Metals Co.

Faced with the problem of packaging a new line, Mr. Golden decided that the consumers' convenience was the paramount issue involved. Consequently he selected his packages for their usefulness, believing utility to be the first principle of design.

Use Before Beauty

By Asher Golden*

IN SELECTING containers for our line, we aimed chiefly at making the contents of the bottle or jar easily accessible to the user. It is not an uncommon thing to find jars that are too high for their diameter making it difficult for the user to reach down to the bottom of the jar. In the case of bottles, accessibility and ease of handling are also of great importance. The bottle should be designed so that it may be conveniently held in the hands without danger of slipping.

Most of the bottles in use meet this requirement satisfactorily, but a great many of them fall short in another respect—in the design of the neck. For instance, it is almost impossible to pour a mobile liquid out of a bottle with a large diameter and a short stubby neck, without slopping over the neck and the bottle. This difficulty may be avoided by selecting a bottle with a neck sufficiently long to reach the palm of the hand. Then a mobile liquid may be poured out without serious danger of slopping.

This question of consumer convenience has been the prime consideration which has guided us in the selection of our containers. An examination of our jars will show that they are almost square in their proportions. The diameter is about equal to the height and in no case have we used a jar with a large body and a small neck which forces the user to crook her finger in order to use the contents which adhere to the under side of the shoulder.

The principle of convenience is again applied in the selection of the small bottle used for nail enamels. We have selected brushes which reach right down to the bottom of the bottle, thus making it unnecessary for the consumer to stand the bottle on its head in order to use the last of the contents.

In selecting our labels, we felt that it was important to use labels which would not discolor or corrode. The first impression the user gets from a discolored label is that the preparation is dangerous and harmful. The thought which naturally comes to the consumer's mind is that if the preparation attacks the label, it will necessarily attack the skin. This, of course, does not necessarily follow, since the preparation may attack the label yet be perfectly harmless to the skin. Nevertheless, it is hard to convince the user of this

*The Golden Company

Versatility and Distinction
with Imperial Oblongs

Here are six examples of distinguished packaging. Each of the products shown in the illustration is contained in our newest bottle—the Imperial Oblong. Label treatment on each bottle was worked out by Owens-Illinois Glass Company package designers to indicate how versatility of appearance may be achieved in the use of these smart new Imperial oblongs.

Perhaps you have some product or line of products the sale of which could be stepped up by improved packaging. If you feel that this is the case, we shall be glad to cooperate with you. Owens-Illinois Glass Company service covers every step of the packaging problem, including designing inner and outer cartons, labels and closures, as well as the production of the right glass container for your product. Owens-Illinois Glass Company, Toledo, Ohio.

OWENS-ILLINOIS
BOTTLES AND GLASS CONTAINERS

fact and since the package sells a great many preparations, if anything goes wrong with any part of the container, it leaves the consumer with a permenently bad impression.

It may be seen from the discussion so far, that we have paid a great deal of attention to utility features in handling our packaging problem but an examination of our packages will show that we have not neglected the appearance factor, involving design and beauty. We selected containers we considered beautiful in appearance as well as conforming to the standards we had set for utility. We designed our labels so that they would be artistic and attractive, yet simple, while our closures were selected because we felt they finished off most appropriately the idea which we were trying to carry out.

We have attempted to produce a package of artistic, yet simple design, for it has always been our belief that there is an infinite beauty in simplicity. There are undoubtedly certain artistic principles governing package design which are of extreme importance in influencing the prospective buyer. We have attempted to produce an attractive package and to think of its appearance in terms of its effect upon the consumer.

SKIN-WRAPPING BOTTLES

Attractive appearance of the whole package may be sacrificed by carelessly sealing the paper in skin-wrapping a bottle. Five methods of folding and sealing which make a neat appearance are shown here. It is interesting to note the bottle in the foreground, where the twist of the paper in making the seal is in the opposite direction to that used in tightening the metal cap—a method which often results in loose caps.

Utility Packages

(Continued from page 139)

Each item was put in a flint glass bottle and exposed to the sun's rays for more than a year. The total number of chemicals thus affected was fifty out of six hundred and eight. These chemicals were, therefore, packed in jet black lacquered bottles. Formerly the practise was to pack these items in amber colored bottles, but to more effectively shut out the destructive light rays, a jet black opaque bottle is now used.

The items which were found to be affected by light rays, and for which the black bottle was adopted are:

Acid Pyrogallic Resublimed, Acid Pyrogallic Crystals U. S. P., Acid Pyrogallic C.P., Acid Pyrogallic Technical Lumps, Acid Pyrogallic Technical Powdered, Bromeikon, Ammonium Iodide U.S.P. IX, Calcium Iodide, Hydroquinone, Iron Chloride Ferrous, Iron Chloride C.P. Ferrous, Iron & Ammonium Oxalate C.P. (ic), Iodeikon, Iso-Iodeikon, Iron Oxalate (Ic Pearls), Iron & Ammonium Oxalate (ic), Iron & Potassium Oxalate (ic), Iron & Sodium Oxalate (ic), Mercury Oxide Red Technical, Mercury Oxide Red N.F., Mercury Oxide Red N.F. Powdered, Mercury Acetate Mercurous, Mercury Oxide Yellow Technical, Mercury Oxide Yellow U.S.P., Mercury Oxide Yellow C.P. (ic), Mercury Iodide Yellow U.S.P. (ous), Mercury Oxide Red C.P. (ic), Mercury Subsulphate, Pictol, Red Precipitate N.F., Silver Acetate, Silver Carbonate, Silver Chloride C.P., Silver Cyanide, Silver Lactate, Silver Nitrate, Silver Phosphate, Silver Sulphate, Santonin U.S.P. Crystals, Santonin U.S.P. Powdered, Silver Carbonate C.P., Silver Chloride, Sodium Santoniate, Silver Iodide, Strontium Iodide U.S.P. IX, Sodium Potassium Bismutho-Tartrate, Silver Nucleinate, Silver Proteinate, Zinc Permanganate, Morphine Acetate.

Packaging Boncilla

(Continued from page 145)

nickel plated cover as contrasted with the green. The three liquid preparations are packed in ribbed cylindrical bottles, with nickel plated slip tops covering the actual closure.

That Boncilla has acted wisely in matters other than the packages is evidenced by several facts. In the first place, with the introduction of the new packages has come also the installation of modern machinery for manufacturing and packaging the line, thus assuring not only quality, but also economy in manufacture. Also the line has wisely been limited to staple products—cleansing cream, cold cream, nourishing cream, vanishing cream, liquid cream, astringent lotion, skin tonic, face powder, rouge and lipstick in addition to the famous Clasmic Pack.

Also the pricing of these new items marks a definite recognition of the trend of the times toward higher quality at lower prices.

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"Face Fitness. It begins with the five pleasant minutes you spend with Williams Shaving Service. . . In any company the Face that's Fit is a perfect introduction. That's why millions of Face-Fit men insist upon 'Williams' . . . "

It is a matter of pride to us that National tubes are used exclusively for Williams Shaving Cream, insuring this product the "perfect introduction". Smart and enduring, individual in appearance, these tubes are the outward semblance of quality to millions of Face-Fit men.

National Tubes meet every test for quality and endurance. . . . In addition they incorporate several *small but essential differences* which cannot be duplicated. Write today for samples and particulars.

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A SUBSIDIARY OF COMMERCIAL SOLVENTS CORPORATION
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230 PARK AVENUE NEW YORK, N. Y.

Powder Packages

(*Continued from page 136*)

and then to press the bottom over the drum. When the drum is constructed with a ledge the bottom seals can be applied by an ordinary semi-automatic labeling machine. Labeling machines are used also when it is desired to affix a seal to the side of the shoulder box to prevent removal of the lid.

The full telescope box is finished immediately and the top is pressed on over the bottom and drum assembly.

Wrapping with transparent cellulose paper presents no problem when the box is square or oblong. But it is not always so easy to make a neat job of wrapping rounds unless considerable time is spent on them. Quick wrapping and relatively neat pleating can be effected simultaneously by constructing a wrapping board as follows:

Take a hardwood plank about the thickness of the assembled box and cut a hole into it slightly larger than the diameter of the box. This hole should be absolutely smooth; filled and varnished preferably. Then take a sheet of cellulose of glassine paper cut to the proper size and place over the hole. Force the box upside down through the hole until almost through the plank. Gather up the projecting ends of the wrapper, twist firmly and clip them; then affix a seal to prevent unwrapping. If the finish of the box will stand it, the wrapper can be moistened slightly;—this upon drying will shrink, giving a neat tight fit. A wrapping machine has been developed to form uniform pleats on top and bottom of cylindrical boxes. This machine is completely automatic. It will affix ends seals over the folds or glue them as required.

The boxes of course can be hand-pleated but this is an expensive procedure.

If it is thought desirable to fold the pleats under the lid, the wrapping of the tops can be effected with the "single-holder" described above, the ends folded in and the bottom forced into place after which the wrapped box is ejected.

When transparent wrappings are not employed, the box must be provided with some form of outside protection, such as an inexpensive box and a decorated paper wrapper. The Lucretia Vanderbilt line is packaged in this way.

A word in conclusion as to the purchase of face powder boxes. It is important for the designer to know the box market as he is likely to design a box which cannot be machine made and which, therefore, may be too expensive for ordinary purposes. Rounds, full telescope or shoulder can be made by machinery from sampling sizes up to the body powder sizes. Squares, on the other hand, can be made by machine by only a few box makers. One firm makes a specialty of machines made squares; others make them partly by machine, partly by hand, which of course makes them somewhat more expensive. Octagonals and other peculiar shapes are invariably hand-made.

WRAPPING GERARDINE

AN INTERESTING departure in finishing a skin-wrapped bottle is utilized by La Gerardine. The distinctive feature of this package is that the plastic cap acts as a seal to hold the transparent paper in place. The operator takes a sheet of this and a booklet which is held on the back of the package by the wrapping and gives almost the effect of another label. She begins the wrapping operation so that the seam comes at the side of the package and thus becomes practically invisible. With a stroke of a brush she applies adhesive to this side seam and then makes the folds to close the bottom in the ordinary way and applies adhesive to that.

The package is now completely finished except for the top and the concluding steps in the operation must be carefully handled in order to furnish a neatly finished package. First the cap is removed. Then holding the package with both hands, with the label facing her, the operator starts the fold by bringing the paper down on the shoulders of the bottle with the index fingers. She then folds down with the right thumb and over with the left index finger; then down with the left middle finger and over with the left thumb. This reverse folding is necessary so that when she screws on the cap the clockwise motion acts to tighten the wrap and seal the folds. It is obvious that the application of the cap would unwrap the transparent paper if the folds on the shoulder were made in the ordinary way.

Your PACKAGE *is your* TOTEM POLE . . .

It should instantly identify your product or your line of products.
It should proclaim fine contents by means of fine design.
It should arouse the desire to buy—and buy again.

To achieve these ends your package must have more than mere color; it must have pleasing lines; it must have well conceived lettering, artistically executed;—above all it must have compelling modern design.

Few artists possess the ability to create modern designs without allowing them to become "modernistic". There is nothing "modernistic" about the designs we create. They are simple, straightforward conceptions, striking, but in superb taste.

But apart from the artistic side, the package must be *economically* and *practically* constructed.

We have a thorough understanding of chemical, production, cost, and merchandising problems—and we know design.

Every package we create for you will be tangible evidence of superior design ability and will have the advantage of a practical knowledge of packaging materials and years of experience in the production of packaged products.

In the covers of this issue may be seen the work of Mr. Schaedler. Observe the striking use of color, the easily comprehended simple design elements, and the finesse of the lettering.

Chilson & Schaedler

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Package Design **Production Engineering**

PACKAGING IN GLASS

By K. L. Ford

IN spite of the fact that glass containers are used for a wide variety of products there apparently exists a lack of appreciation of the wide versatility of glass. This lack of understanding becomes apparent when the Commissioner of Public Health of a large municipality, a government bureau member of long experience, and an official of a large advertising agency each in publications show a woeful ignorance of modern glassware and modern practice. In view of the wide publicity some of these erroneous conceptions receive, the harm done to the users of glass in preventing them from adopting modern practice places a distinct handicap on their production or sales efforts. It may not be out of place, therefore, to include in this column a discussion on purely technical phases of glass containers pointing out the possibilities and practice in modern packaging. In a like vein new or novel applications of handling methods or trends in any phase of the glass container may afford the reader some idea of value to his own plant practice. The editor would welcome any coment or inquiry relative to glass containers which might assist in clarifying any question regarding glass.

Surface Effects and Color

Glass possesses several characteristic properties which give it an important role in the package field. Without making any special enumeration of its features there are two which may add materially to the attractiveness of the package. The first is surface effects by which appearance and degree of transparency are modified. The second is use of color. Some understanding of the technical process by which these surface effects and color are obtained may be of assistance to those contemplating any change in containers.

While glass is primarily a container which gives full visibility there are instances where a partial masking of the contents may be desired. In some cases a surface design may be employed to give a decorative effect or suggest a frosted appearance without entirely eliminating the color of the contents. In other packages a complete opaque container is desired. But without discussing why such effects may be desired possibly a description of these different finishes may suggest some possibility to the packer designer, or advertising agency.

"Stippled Finish"

A "stippled" finish on glass is perhaps the easiest to obtain, for it is produced in the same operation as the molding or blowing of the bottle. The bottle mold is kept smooth by periodic cleaning and polishing for any roughness will produce a blemish. To produce a "stipple" effect the inner surface of the mold is purposely roughened in conformity with a design, if desired, which is reproduced on the bottle surface. In this process the bottle surface is formed against a roughened surface and therefore has an unbroken skin similar in every way to the ordinary bottle. By use of a design or marking, the visibility can be materially reduced. Obviously since this finish is applied by the mold it can be located over the entire surface below the top finish or in any section as desired. At the present time there are in the food field several containers to which this type of finish has been applied with unusual success.

The second surface effect employed is the etched surface. Etching is produced by the action of hydroflouric acid on glass dissolving away the silicates. There is considerable difference in the appearance of the surface, after treatment by acid depending upon the conditions under which the action is carried out and the length of exposure. If the exposure is made in a bath containing HF and sulphuric acid the surface is uniformly attacked and a polished surface results. This is the manner in which the acid bottles used in fancy packages are obtained rather than by the use of a polishing wheel as was formerly the practice.

If, however, while the acid is acting on the glass the insoluble compounds formed are allowed to remain in contact with glass surface the action produces the matt finish commonly called an etched surface. The nature of the glass, the kind of bath and other conditions under control can be regulated to produce different depth of etch and appearance of the roughened effect.

By protecting any part of the container the action of the acid can be confined to any section or to produce a design or marking. Some designs might be produced by placing on the surface a flouride which as it becomes moist liberates the acid which acts on the glass.

Acid Etching

In any method of acid etching the acid is an insoluble component and must be washed from the surface, and the container dried. Acid etching is an additional step in the manufacturing of the container by which almost any degree of diffusion of the light may be obtained obscuring details but transmitting color. The matt etch has very definite applications which can be utilized as desired but it does represent an additional manufacturing operation and therefore some additional cost.

Another roughened surface resembling the matt etch is that produced by sand blasting. In this process sand, possibly combined with some abrasive, is forced against the glass by air or mechanical force. The outer surface is broken and roughened. While the effect resembles that produced by acid etching this gives a fractured surface in which the particles are sharper and more crystal like. In this method also by protecting part of the surface by a coating or stencil the sand blasting may be confined as desired.

Coatings

A coating may be applied to glass in several ways producing entirely different effects. In one instance a coating may be applied during the process of manufacturing the bottle while all others are applied to the ware after it has been made and are therefore an additional operation.

When metallic salts are applied to glass surfaces and subjected to high temperature a peculiar coating is produced which give an unusual effect. This coating is extremely thin and while it has some color of its own it is the iridescent effect produced which gives it special value from a decorative point of view. When the ware is removed from the machine and while it is still hot, a solution containing certain metallic salts is sprayed on the hot containers. They are then put through the regular annealing operations and the surface assumes a lightly colored effect of considerable unevenness in color distribution. Since this layer is extremely thin, the light striking it is broken up and the reflected color varies depending upon the thickness of the film.

Other coating, either lacquers or enamels, may be applied to bottles by spraying the color on the cold bottle and giving sufficient additional heating to fix the coating. Some of these coatings may be quite susceptible to scratching while others are very hard and appear almost an integral part of the container. Almost any color may be obtained. Here also by the use of various methods of transfer or application a design of label or decorative effect may be obtained.

While these briefly outline the various surface effects which may be obtained and the method for obtaining them, it may serve as a guide for those who want decorative effect for any purpose. Possibly later on examples of applications of these methods as employed in this field will be presented.

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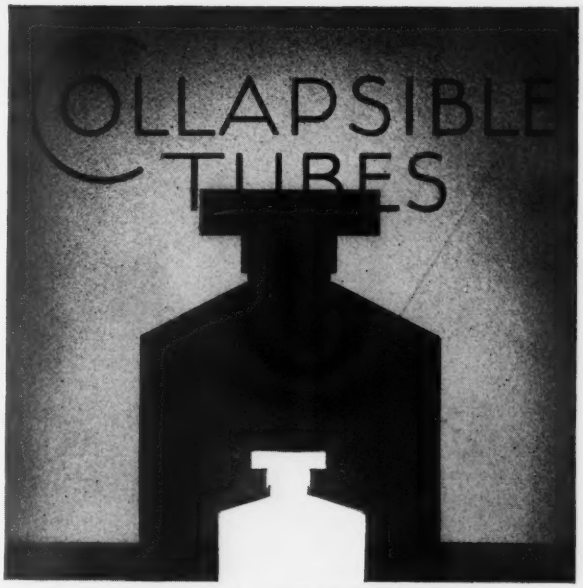

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IRVINGTON, N. J.

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may be made . . . of green cheese . . . (more hokum) . . . but ART TUBES . . . are made of pure straits pig tin . . . and at plain prices . . . too . . .

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This "POUR-OUT" is furnished as a part of our C. T. caps, and is automatically transferred onto your bottle when cap is applied.

This invention is covered by our Patent No: 1,837,618:

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For Plant Managers

By Francis Chilson
Consulting Production Engineer

Wrappers and Wrappers

A number of packages on the market are wrapped in transparent materials which are supposed to give protection. But do they ? Not always, since a number of such wrappings can not stand the gaff of handling, and will crack or peel off like onion skin. Many of them are put on in a moist condition in order to secure a snug fit. Such wrappers particularly seem to be susceptible to cracking. The answer is that there are degrees of difference between products, ostensibly of the same quality, put out by different manufacturers. The only way to insure that the transparent wrapper on your package will stand the gaff is to make sure that you are getting the right quality from the right source.

Reducing Packaging Material Costs

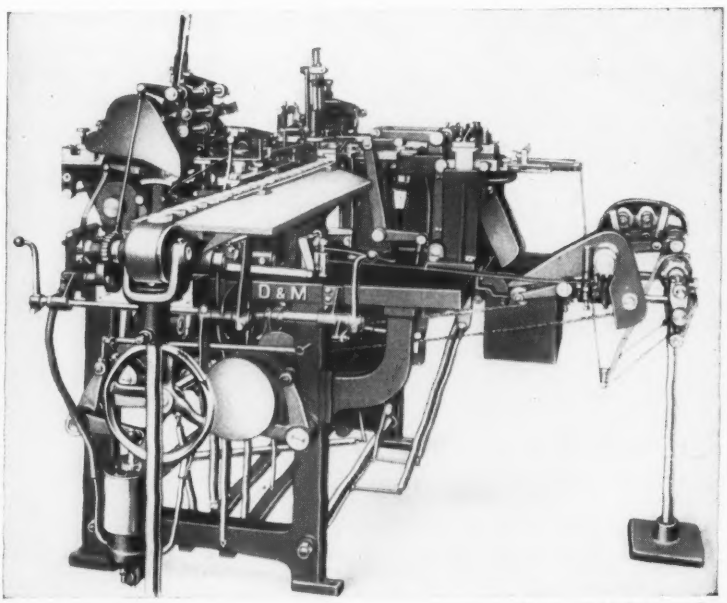
Such costs can be reduced by other means than changing the design. If each material is scrutinized carefully it may be possible to effect savings by substitution. For instance; the user of cartons may be employing an expensive stock for which a cheaper one might be substituted without injuring appearance. Very often the printer is using this expensive stock because he has been told to use a screen that would not register well on any other. In this case the substitution of a coarser screen will make possible the substitution of a less expensive stock with very slight evidence that the change has been made. Very frequently cartons for shaving cream, tooth paste and proprietaries are printed on more expensive stock than need be. Of course this substitution must be made cautiously and with the advice of the printer. No saving however great can compensate for injured design because sales are likely to suffer as a result.

Automatic Liquid Measuring

Some time ago we referred to the problems of mixing and we indicated the need for accurate automatic liquid measuring devices. In browsing around we discovered one which will certainly be interesting and may prove enormously helpful to manufacturers of drugs and cosmetics using large quantities of liquids. It is called the Wat-A-Mat and is made by the Fred D. Pfening Co., Columbus, Ohio. This device is a small electrically operated unit which can be placed in any convenient spot. It will take water from the city mains or distilled water supply tank, filter it, heat it to the required temperature and deliver an exact quantity to the mixing tank or colloid mill. The machine can be calibrated in pounds or gallons and will deliver up to a (present standard) maximum of five hundred pounds. The president of the company assures us that the device can be built to handle liquids of a very wide scale of viscosity under almost any conditions. In operating the device all you have to do is to set the weight indicator to the amount of liquid wanted and the "blending" lever to the temperature wanted; then when you're ready touch a button and the amount required by the formula is delivered. The Wat-A-Mat has been used for years in the baking industry for automatically measuring and tempering water. The flow is continuous. It seems to be a device that will save time and eliminate mistakes.

Save Cleaning Time

You can save considerable time in cleaning your hopper type cream and powder filling machines and also your tube fillers by lining them with grease proof parchment of light weight. Powder filling requires shifting from shade to shade, often with a concurrent change in perfume, a situation that demands the utmost care in cleaning the machine after each run to avoid streaking. A sheet of parchment cut to fit the hopper will reduce this cleaning time. In the case of cream fillers the same machine is often used for delicately scented toilet creams; also for tar ointments and phenol acne-ointments. Owing to the difficulty of



Courtesy J. M. Lehmann Co.

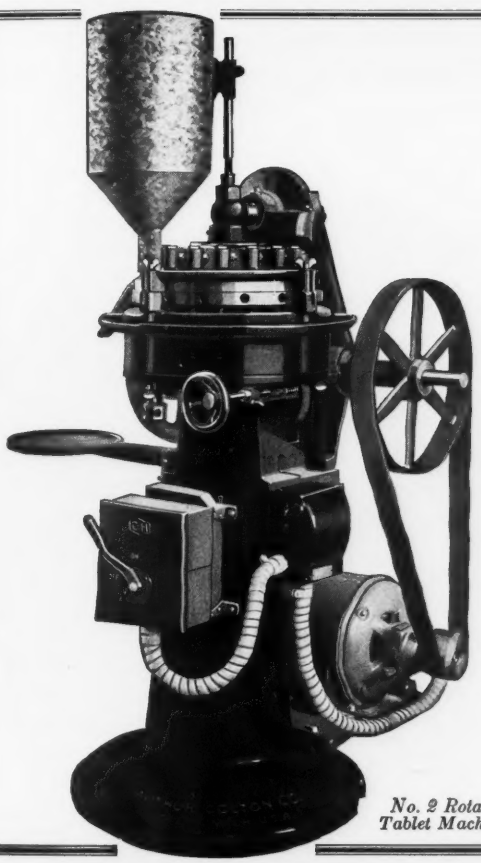
This is the wrapping machine referred to in our January issue which automatically wraps and seals cylindrical packages, pleating or folding the wrapper top and bottom. The Yardley line is at present being wrapped by a machine of this type

READ IT AGAIN!

There is a
CORK-TEX PRODUCT
for every **SEALING PROBLEM**

WRITE FOR DETAILS AND SAMPLES

BOND MANUFACTURING CORPORATION
WILMINGTON, DELAWARE



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

Write for Catalogs.

ARTHUR COLTON COMPANY
2620 East Jefferson Ave.
Detroit, Michigan

freeing the machine of odor and color, these dark, medicated ointments are often filled by hand. The use of a parchment lining is recommended to minimize this condition. The removal of the sheet after the batch has been filled eliminates the mess, and the working parts, which the paper cannot protect, can be taken out of the machine and thoroughly soaked and scrubbed in a suitable solvent. The problem in filling tooth paste is somewhat less acute. Here the danger lies in drying on the surface and on the walls of the hopper. The dried out material may form little coarse particles which finally get into the paste. This condition occurs most frequently when the machine suffers a period of idleness during a run owing to a breakdown or a shift in tube size. The parchment being grease and moisture proof would serve to protect the batch. Parchment is inexpensive.

Correction

In a previous issue we had a note on roller-bearing ballyhoo. In that note we unfortunately made a statement which was too general. Still more unfortunately the printer, failing to decipher our handwriting properly, attributed an opinion to the chief engineer of the Western Electric, whereas it should have been to an article by an engineer of the *Westinghouse* Electric. The reference intended was to an article in the May 1929 issue of *Electrical Manufacturing*, by J. L. Brown of the Westinghouse Company: "Selecting the Bearing to Suit the Job." Those interested will find in this article a wealth of material on the comparative merits of sleeve and roller bearings. On the findings of that article we rest our case.

Equipment Announcements

The Pfaudler Co., Rochester, N. Y. announces a line of light glass lined tanks known as the Junior Series, ranging in capacity from five gallons up and in price from twelve dollars up. Attached mixers can be obtained if desired.

Triangle Package Machinery Co., Chicago, has issued a general catalogue describing and illustrating their line of conveyors, sealers, cappers, powder fillers and other packaging equipment. This company constructs powder fillers to fill by net or gross weight.

H. R. Bliss Co. Inc, Niagara Falls, N. Y. contributes a catalogue describing Bliss Boxes, stitchers, and sealing equipment.

U. S. Bottlers Machinery Company, Chicago, Ill. has issued an attractively printed and illustrated catalogue on their capping and corking equipment. One of the especially attractive features of this catalogue consists in the number of clear installation photographs showing U. S. equipment on the job. These photographs are sufficiently large and clear to permit detailed study of the various layouts, a feature which always enhances the interest of plant managers who read equipment catalogues.

Patterson Foundry & Machine Co., East Liverpool, O., has issued a phamplet on their recently introduced portable mixers, which range in size from 1/20 horse to 5 horse.

Pneumatic Scale Corporation, Norfolk Downs, Mass. announces the big brother of the Samco Junior vacuum filler. This machine is designed to fill the larger sizes—gallons, halves and quarts at high speed. But it can be used also for smaller sizes.

Standard Knapp Corporation, Long Island City has issued a new catalogue illustrating their shipping case sealing machines in action. The catalogue is very well arranged.

A Unique Emulsifier

An emulsifying machine which is unique for the fact that it is not necessary to give the batch a preliminary mix before running it through, has been placed upon the market. Inlets are provided: one to admit the external phase of the emulsion (either water or oil) and another to admit the internal phase or the ingredient to be dispersed. By means of a control lever and a scale, the proportions of oil and water can be definitely regulated. Inasmuch as the viscosity of oil varies, the machine must be set before emulsification begins. The machine is built in two sizes: No. 1, capacity 100 to 200 gallons per hour; No. 2, 50 to 100 gallons per hour. Both machines are small and compact, the larger one weighing only 53 pounds. It is claimed that this machine will reduce particle sizes from one to five microns. The name of the machine is the Zenith Emulsifying Machine, and it is handled by Th. Goldschmidt Corp., New York.

From Package Design to Poetry

This Department gets requests for all sorts of curious information. But we were quite knocked out when a romantic young lady from Nashville asked our opinion of the name, Floramel, for a perfume she proposes to market. She also asked if we would compose a little poem to supplement her beautiful package! We of course felt highly flattered at this compliment on our attainments, but we were unequal to the issue. Accordingly, we asked a friend, Jack Lawrence (*ex-World, ex-American, ex-Trib*), a dreamy-eyed gentleman, who seeks inspiration in the heavens with a bottle for a telescope, to compose a poem appropriate to the occasion. Here it is and we hope you'll like it:

Floramel

Oh come and try my Floramel,
Most fragrant flow'r in the dell,
I like my rye, but wot the hell—
Floramel! My Floramel!

You all will buy my Floramel
As soon as you have had a smell,
And you will give it to your gel—
Floramel! My Floramel!

In use you'll find my Floramel
In penthouse and in prison cell,
From Battr'y Park to New Rochell—
Floramel! My Floramel!

And if you give my Floramel
In goodly doses to your Nell,
At ten p. m. you'll hear her yell:—
"Floramel! My Floramel!"

"Oh, boy," she'll sigh, "for you I fell,
The reason, Lad, I cannot tell—
It must have been that Floramel—!"
Floramel! My Floramel!

Table of Syrup Densities

The following table shows amount of syrup obtained by adding sugar to cold water. It is based on the fact one pound of sugar displaces nine and three-fifths fluid ounces of water. As loss occurs in evaporation, this table is accurate only when syrup is made by the cold process:

Lbs. of sugar added to one gal. cold water	*Quantity syrup obtained*			*Quan. Sug. in one gal. syrup*	*At temp. of 60 F.*	
	Gals.	*Pts.*	*Ozs.*		*Spg.*	*Deg Baume*
1 Pound	1	0	10	14¼ oz.	1.043	6
2 "	1	1	3	1 lb. 12 "	1.080	11
3 "	1	1	13	2 " 7 "	1.113	15.5
4 "	1	2	0	3 " 1 "	1.142	18.2
5 "	1	3	0	3 " 11 "	1.166	21.
6 "	1	3	10	4 " 2 "	1.188	23.4
7 "	1	4	3	4 " 9 "	1.209	25.4
8 "	1	4	13	5 " 0 "	1.227	27.2
9 "	1	5	6	5 " 6 "	1.244	28.7
10 "	1	6	0	5 " 11 "	1.258	30.1

10,000 executives
will attend

ACKAGING'S

[Packing and Shipping, too]

OWN SHOW

Ideas — materials — methods — information. • In a manner and in an abundance nowhere else and under no other conditions possible, they are offered, for analysis, demonstration and comparison, to all whose work concerns itself with packaging, packing and shipping, at the Second Packaging Exposition, Conference and Clinics, to be held in the Palmer House, Chicago, March 7th to 12th, inclusive, under the auspices of the American Management Association. • Some 10,000 executives from all parts of the country have already indicated their intention of attending this outstanding event of the year in the province of packaging and its allied activities. • The event will be one of unusual interest and inspiration. Its value to all those whose activities penetrate or are affected by this rich new industrial field will be demonstrable in dollars and cents. • You are urged to make plans *now* to be there.

American Management Association

Second Packaging Exposition • Conferences • Clinics

PALMER HOUSE · CHICAGO

MARCH 7-12 . . . 1932

Beeswax Solubility

James J. Deeny in an article on "The Solubility of Beezwax" in the January, 1932 number of the American Journal of Pharmacy, uses two methods as follows:

Method I: A definite amount of solvent is weighed out carefully in a 24 x 200 mm. test tube. This solvent is brought to a temperature of 25 degrees C. and an accurately weighed amount of wax, in very small pieces, added. The test tube is tightly corked and placed in a water bath which serves to keep the temperature constant at 25 degrees C. during the entire test. At frequent intervals the tubes are agitated and observations as to the solubility of the wax are made over a period of two days.

Method II: A definite weight of solvent is weighed in a 250 cc. round-bottomed flask and an accurately weighed amount of beeswax added. The flask is attached to a reflux condenser and the solvent heated gently until the wax is just completely dissolved. The flask is then allowed to cool. The solution of the wax is then poured into a test tube and the congealing point determined. Subsequent tests are then made, and the ratio of wax to solvent determined which will remain completely dissolved at 25 degrees C. but congeals at 24 degrees C.

The following table is a tabulation of results obtained:

Solvent	Parts Solvent	Soluble in Cold (25° C)	Refluxed and Cooled 25° C	Congealing Point
Chloroform	30	Completely Soluble	Completely Soluble	14°C
Chloroform	10	Partly Soluble	Completely Soluble	19°C
Chloroform	5	Partly Soluble	Completely Soluble	24°C
Carbon Tetrachloride	30	Completely Soluble	Completely Soluble	14.5°C
Carbon Tetrachloride	10	Partly Soluble	Completely Soluble	20°C
Carbon Tetrachloride	8	Partly Soluble	Completely Soluble	24°C
Carbon Tetrachloride	5	Partly Soluble	Partly Soluble	32°C
Benzene	30	Completely Soluble	Completely Soluble	14.5°C
Benzene	10	Partly Soluble	Completely Soluble	20°C
Benzene	6.5	Partly Soluble	Completely Soluble	24°C
Benzene	5	Partly Soluble	Partly Soluble	26°C
Carbon Disulphide	30	Completely Soluble	Completely Soluble	13.5°C
Carbon Disulphide	10	Partly Soluble	Completely Soluble	20°C
Carbon Disulphide	8.5	Partly Soluble	Completely Soluble	24°C
Ethyl Ether	100	Completely Soluble	Completely Soluble	...
Ethyl Ether	35	Partly Soluble	Completely Soluble	24°C
Ethyl Ether	30	Partly Soluble	Partly Soluble	26°C
Petroleum Ether	100	Completely Soluble	Completely Soluble	15°C
Petroleum Ether	30	Partly Soluble	Completely Soluble	24.5°C
Acetone	100	Insoluble	Insoluble	...
Acetone	30	Insoluble	Insoluble	...
Ethyl Alcohol	100	Partly Soluble	Partly Soluble	...
Ethyl Alcohol	30	Partly Soluble	Partly Soluble	...
Fixed Oils (Linseed)	1000	Very Slightly Soluble	Completely Soluble	...
Fixed Oils (Linseed)	100	Very Slightly Soluble	Partly Soluble	32°C
Fixed Oils (Linseed)	30	Very Slightly Soluble	Partly Soluble	44°C
Volatile Oil (Oil Rosemary)	1000	Completely Soluble	Completely Soluble	...
Volatile Oil (Oil Rosemary)	100	Partly Soluble	Completely Soluble	...
Volatile Oil (Oil Rosemary)	30	Partly Soluble	Partly Soluble	...
Volatile Oil (Oil Turpentine)	100	Completely Soluble	Completely Soluble	14°C
Volatile Oil (Oil Turpentine)	30	Partly Soluble	Completely Soluble	24°C
Volatile Oil (Oil Turpentine)	10	Partly Soluble	Partly Soluble	28°C

Did You Know That....?

When monel metal is used in tanks they must be kept scoured and brilliant or metallic oxides will form and the oxidized films will introduce impurities into the batch?

Iron in the proportion of only ten parts per million will cause a brown precipitate in clear aqueous solutions after standing for a few days?

That iron, even in such low percentages, may destroy the color of the preparation and also discolor the cork in the cap?

New Goat Cartoner

The Fred Goat Co. Inc., Brooklyn, N. Y. announce a new semi-automatic cartoning machine. This machine takes the cartons from a magazine, opens and holds them in position so that they can be loaded by hand, after which they are closed automatically by sealing or tucking. Speeds range from 30 to 40 a minute.

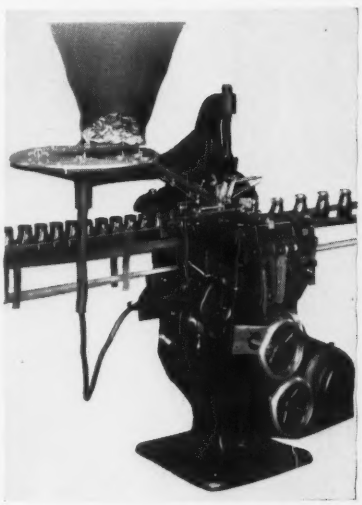
Stokes Powder Filler

The F. J. Stokes Machine Company, Philadelphia, have sent us a preliminary announcement of a new powder filler capable of a guaranteed production of 40 per minute within the limits of its filling capacity. Next month we shall have more definite details and illustrations.

New Williams Capper

Williams Sealing Corp., Decatur, Ill., has announced a new straight line automatic capping machine, models of which are available with speeds from 60 to 125 containers a minute.

The model illustrated in folder distributed has a speed of 65 containers per minute and applies three different sizes of "Kork-N-Seals" to four different sizes and shapes of bottles. The adjusting time necessary to change from one size container and "Kork-N-Seal" to another is about fifteen minutes. This flexibility of the machine is perhaps one of its most outstanding features.



The machine has the advantage of eliminating all strain from the body of the container during the capping operation. This patented "Kork-N-Seal" method supports the bottle or can at the neck, and the container is lifted free from the capping machine table while pressure is applied. This eliminates bottle breakage, and also permits the use of liners of great density in the "Kork-N-Seals", which are required for satisfactory sealing of penetrating and otherwise difficult-to-hold products.

White Cap Folder

White Cap Co., Chicago, has issued a folder entitled, "A New Slant on Your Sales Problem" which describes various applications of the "Whitecap".

News

People

New Lilly Officers

Eli Lilly, grandson of the founder of Eli Lilly & Co., Indianapolis, pharmaceuticals, has succeeded his father, J. K. Lilly, as president of that organization. The latter has been elected to the newly created office of chairman of the board.

J. K. Lilly first became associated with the company in 1876 when he entered the company's laboratory. When the founder of the company died in 1898, his son became president of the corporation and has served since that time in that capacity. Under his leadership, the business of the company has become international in scope and the sales volume has multiplied thirty-four times in the thirty-four years. He will as usual, continue to be active in the business, relinquishing only the greater responsibilities to his elder son, who has been in training for his new position since his graduation from the Philadelphia College of Pharmacy and Science in 1907.

Charles J. Lynn, formerly secretary and general manager, has been elected a vice-president, serving in that capacity together with J. K. Lilly, Jr., while N. H. Noyes now holds the double office of secretary and treasurer. Charles J. Lynn has been associated with the company since 1895. He opened the New York branch in 1902, became general manager in 1907 and secretary of the company one year later.

Du Pont Appoints Killheffer

E. I. du Pont de Nemours & Co., Inc., has announced the appointment of Dr. E. H. Kilheffer as manager of the fine chemical division, sales adviser of the organic chemical department, and president of Acetol Products, Inc. Dr. Kilheffer was formerly president, Newport Chemical Works, Inc., which was taken over by the du Pont company last August. The fine chemical division handles the pharmaceutical and aromatic chemicals now produced by the du Pont organization and acts as selling agent in the United States for Societe Chimique des Usines du Rhone-Poulenc.

Lee Bristol to Judge

Lee H. Bristol, vice-president, Bristol-Myers Co., New York, has consented to serve on the jury to select the best definition of advertising in a contest sponsored by "Advertising Age."

Edwards Joins Swann

Frank J. Edwards, formerly with Grasselli Chemical Co., New York, has become associated with the Swann Chemical Co., that city, as sales representative.

New Williams Officers

O. L. Williams, formerly secretary and vice-president in charge of sales, Williams Sealing Corp., has succeeded the late George A. Williams as president of the company. Other officers are vice-president and treasurer, O. L. Simpson; secretary, J. T. Whitley; and assistant treasurer, J. A. Hey.

A. H. Ross Forms Company

A. H. Ross, secretary and sales manager of U. S. Bottlers Machinery Co., Chicago, has resigned his position as sales manager to head a production engineering and sales company under the name of A. H. Ross & Co. The new organization will act as sales representatives for U. S. equipment and has opened offices in the

A. H. Ross

La Salle-Wacker Bldg., Chicago. The New York offices occupied by U. S. Bottlers Machinery Co. are to be taken over by the sales company.

One of the features offered by the new organization is a production engineering service which will give assistance to manufacturers in the pharmaceutical, chemical, food, and other fields, in laying out and equipping new production plants or in revising and modernizing existing production lines.

A. H. Ross has been associated with U. S. Bottlers Machinery Co. for nineteen years and he is one of the best known men in his field. The entire selling organization which was associated with him in his former position has gone with him under the new plan of operation.

Weidman Resigns from Schering

Henry A. Wiedman, who has been manager of the chemical division of Schering Corp., New York, for the past three years, will sever his connections with that organization on April 1. He has been engaged in the drug and chemical trade for fifteen years and before his association with Schering Corp. was for nine years with E. Fougera & Co. and three years with McKesson & Robbins, Inc. He has as yet announced no plans for the future.

Webb Buys Southern Drug

Frank W. Webb, for the past two years associated with McCormick & Co., Baltimore, has purchased control of the Southern Drug Co., Jacksonville, wholesale druggists.

Wolke Joins Sonneborn

John C. Wolke, formerly with Stanco, Inc., New York, has, under date of February 1, become associated with L. Sonneborn Sons, Inc., that city, petroleum and its products.

Barnes, Armstrong Adv. Director

Arthur K. Barnes, formerly assistant personnel director, Armstrong Cork Co., Lancaster, Pa., has been appointed advertising director, succeeding Kenyon Stevenson, resigned. In addition to advertising, he will direct the company's dealer promotion and merchandising activities. Prior to 1930 when he entered personnel work he handled the sales promotion work of the company's floor division, having been made assistant sales manager in charge of sales promotion in 1920. He joined the Armstrong Cork Company in 1916 as a member of its advertising department in Pittsburgh.

Atkinson With Elmo

Norman G. Atkinson has been made field manager for Elmo, Inc., Philadelphia. He is a registered pharmacist and has been prominently identified in a sales capacity with several concerns.

E. F. Young Visits N. Y.

Everett F. Young, a director of Young Bros. Inc., Providence, R. I. made a visit to the company's New York office recently in connection with sales plans for the coming year. Since the retirement of Douglas Young from the firm about a year ago, Everett Young has been in full charge of sales and promotional activities of Young Bros. and is responsible in a large measure for the expansion policy of the past few months.

Koenig Takes Cruise

Harry D. Koenig, president of Anre, Inc., New York, accompanied by Mrs. Koenig and a party of friends, spent the major part of January on a cruise with stopovers at Havana and Palm Beach.

Dedrick Joins Verley

A. J. Dedrick, formerly with Edward T. Beiser Co., has become middle-West sales representative for Albert Verley, Inc., Chicago, essential oils.

Abbott Sales Manager

Abbot Laboratories, Inc., North Chicago, has appointed A. R. Schramm as manager of sales in territory which includes Ohio, Indiana, Michigan, and sections of New York, Pennsylvania, West Virginia and Kentucky.

Doolittle in Europe

Addington Doolittle, president of Compagnie Parento, Inc., Croton-on-Hudson, N. Y., sailed on the "Conte Biancamano", January 22, with Mrs. Doolittle for a two months' visit in Europe. His itinerary includes visits to Pierre Dhumez & Co. and Organico, both of which organizations his company represents in this country.

Norton, Lambert Sales V. P.

John S. Norton has been elected vice-president in charge of sales of the Lambert Pharmacal Co., St. Louis. For the past nine years he has been associated with the Agfa Ansco Corp., Binghamton, N. Y., as vice-president in charge of sales. He assumes his new duties March 1 and will make his headquarters in St. Louis.

Bogart on "Perfume Engineering"

Marston T. Bogart, professor of organic chemistry at Columbia University, delivered an address on "Perfume Engineering" at a meeting of the Science Forum of the New York Electrical Society, February 10, at the Engineering Auditorium, that city.

J. G. Davidson Made V. P.

Dr. J. G. Davidson, general sales manager, Carbide & Carbon Chemicals Corp., New York, has been elected vice-president of the corporation.

Richard Stern to Germany

Richard Stern, president, Ferd. Mulhens, Inc., "4711," sailed on the S. S. "Bremen," January 15, for a visit to the company's home office, Cologne, Germany.

Dickinson Heads Bank

E. E. Dickinson, president, E. E. Dickinson Co., Essex, Conn., witch hazel, has been elected president of the Essex National Bank, there.

Kelley in Canada

Robert C. Kelly, John Powell & Co., Inc., New York, is completing a business trip through New England and Canada. He will return to his desk the latter part of this month.

Provident Chemical Officers

Provident Chemical Works, St. Louis, has elected the following officers: Sidney H. Thomson, chairman of the board; P. Val Kolb, president; Frank R. Deutman, vice-president in charge of operations;

P. V. Kolb

Douglas L. Boyer, vice-president in charge of sales; R. S. Thomson, secretary and treasurer; J. B. Robinson, comptroller. Directors are: S. H. Thomson, chairman; Theodore Swann; P. Val Kolb; Frank R. Deutman; S. W. Fordyce; and S. B. Jeffries.

Sidney H. Thomson, for many years president of the company, was promoted to the office of chairman of the board of

D. L. Boyer

directors after 36 years of active service. P. Val Kolb, the new president, has acted as vice-president and general manager for the past five years. Frank R. Deutman, vice-president in charge of operations, has been with the company for 31 years. Douglas L. Boyer has been promoted to the position of vice-president in charge of sales after serving the company six years as general sales manager.

Provident Chemical Works was founded in 1876 by F. E. Udell, and is now a subsidiary of the Swann Corp.

Chaplin, Ritchie V. P.

W. L. Chaplin, for the past fourteen years general manager of Smith Lee Co., Oneida, N. Y., has been chosen executive vice-president of W. C. Ritchie & Co., Chicago, paper box manufacturers.

Smith Represents Jamieson

J. Van Velsor Smith, New York, manufacturers' agent, announces that he has been appointed Metropolitan district agent of C. E. Jamieson & Co., Detroit, pharmaceuticals; and Connecticut, Massachusetts and Rhode Island representative for Dr. Tischer Corp., Chicago, makers of "One Drop Inhalant" and "One Drop Medicated Handkerchiefs".

H. Farrell Acquires Stillwell

Herbert W. Farrell, since 1927 associated with the Norda Essential Oil Co., New York, and before that since 1899 connected with Arthur A. Stilwell & Co., that city, importers and exporters of essential oils and botanical drugs, has acquired this latter business and plans to carry it on along the same policies first established fifty-three years ago.

New Colgate V. P.

Charles S. Dewey, former financial advisor to Poland and previously Assistant Secretary of the United States Treasury Department, has been elected a vice-president and member of the board of Colgate-Palmolive-Peet Co. He will be in charge of finance and assist in the foreign business of the company.

Jones with Hygiene Bureau

James C. Jones, formerly associated with "Toilet Requisites" and "Beauty Culture," and more recently retail sales councillor specializing in the cosmetic field, has been appointed director of publicity and sales to retail stores for the Bureau of Feminine Hygiene, Inc., New York.

George Silver Sales Manager

George Silver Import Co., New York, agents in the United States and Canada for Etablissements Roure-Bertrand Fils and Justin Dupont, has announced the appointment of Alvin E. Smith as sales manager. He has been associated with the company as sales representative since 1926.

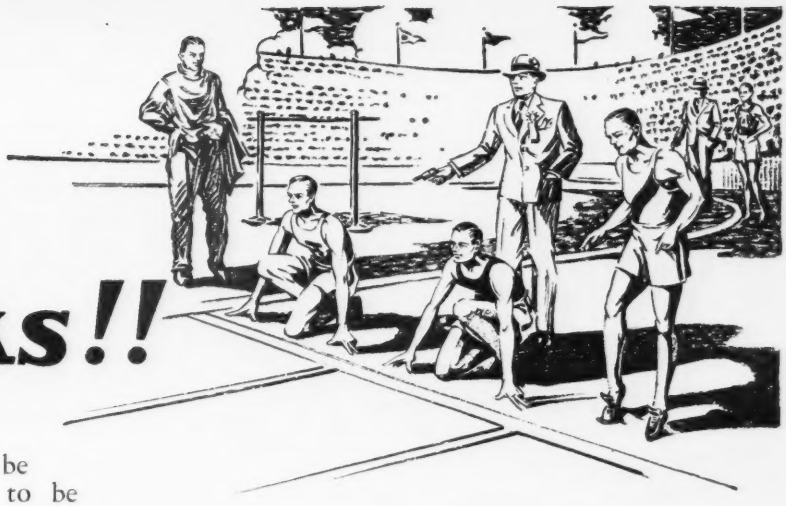
Bean's Fortieth Year

William Lee Bean, secretary and treasurer, McCormick & Co., Baltimore, celebrated his fortieth anniversary with that company, February 1, at which time he was tendered a testimonial dinner by the company.

Bower Joins Powell

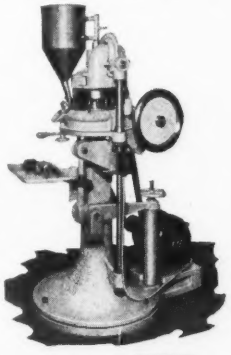
Edmund R. Bower has become associated with John Powell & Co., Inc., New York, N. Y., as representative for the Greater New York territory.

On Your Marks!!



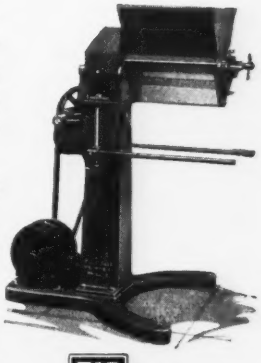
When the race for greater production begins—and it won't be long now—you don't want to be handicapped at the start. It means too much in determining the winner. On your mark! Now! See that your plant is equipped in every department with the most modern and efficient equipment for the purpose,—equipment that will lower your production costs through time- and labor-saving devices, more convenient adjustments, more efficient operation and other features detailed below.

The six new machines pictured are the latest STOKES contributions to the pharmaceutical machinery field. 37 years' experience has gone into the development of each one. *Write for details.*



FJS

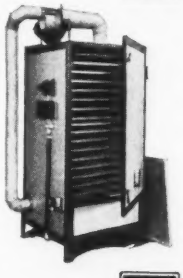
STOKES new "B-2" Rotary Tablet Machine. Numerous new features increase convenience, insure uniformly efficient and economical operation and maintain the rapid and accurate production of the well-known "B" Rotary. Capacity, 400-500 per minute.



FJS

STOKES new Oscillating Granulator. Will handle 98% of all granulations. Motor driven and mounted on roller base, it can be moved about as desired. Ideal for effervescing salts.

WRITE FOR DETAILS



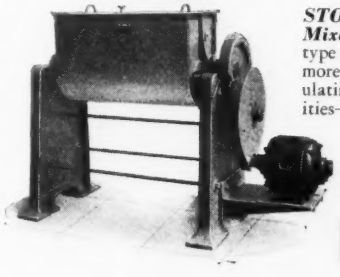
FJS

STOKES new Drying Closet. Electrically heated with automatic control. Efficient, uniform circulation of heat quarters usual drying time. Compact. Can be steam operated also.

FJS

STOKES new Stand for Coating, Polishing and Mixing Pans. Large base insures greater stability. Pan angle may be adjusted as desired. High speed worm drive.

WRITE FOR DETAILS



FJS

STOKES new Granulating Mixer. Improved broken-spiral type agitator insures quicker and more thorough mixing. Less granulating solution required. Capacities—50, 100 and 200 lbs.

FJS

STOKES new Capsule Filler. Semi-automatic. Positive type, adjustable filling mechanism. Accurate, easily cleaned. Capacity—25-30 per minute.

WRITE FOR DETAILS

FJS STOKES MACHINE COMPANY

Pharmaceutical Equipment Since 1895

5932 Tabor Road, Olney P. O., Philadelphia, Pa.

Companies

Coty Enjoins Counterfeiter

Stanley Shein, toilet goods jobber of Providence and New York, was permanently enjoined by U. S. District Judge Francis G. Caffey, in U. S. District Court, Southern District of New York, on January 16th, 1932, from using the word "Coty" or "L'Origan" in connection with sale or advertisement of perfume, cosmetics or toilet preparations unless genuine Coty products.

Evidence was offered that defendant had sold a quantity of spurious Coty perfume represented as genuine in counterfeit Coty packages, which he alleged had been obtained from a source which was the subject of previous prosecution and conviction by Coty. Court ordered a permanent injunction served upon defendant, restraining him from repetition of the offense.

Embossed Cork Patent Upheld

Federal Judge Campbell, of U. S. District Court in Brooklyn, New York, has upheld validity of a patent on embossed wood top corks owned by Embossing Co., Albany, N. Y. This decision was handed down on a suit for infringement brought against L. Mundet & Son who sell embossed wood top corks manufactured by Halsam Products Co., Chicago. A cash settlement was made by the latter company, which also agreed to respect the patent in the future.

New Givaudan Perfume

Givaudan-Delawanna, Inc., New York, announces the production of a new perfume oil of the Fougere type which can be used in all cosmetic preparations. The new product is ready to use and is said to have all the necessary fixatives and other ingredients necessary to produce a finished perfume oil.

"Pyramidon" Infringer Fined

Last summer an injunction was secured by H. A. Metz Laboratories, Inc., against H. G. Knoll & Co., Inc., New York, restraining it from selling amidopyrine under the Metz trade-mark, "Pyramidon", and from using pink labels in connection with sales of amidopyrine. After the injunction order, Metz Laboratories discovered that the Knoll company was still selling amidopyrine under the Metz trade-mark, "Pyramidon", and still using a pink label. Sales in violation of the injunction order were unearthed and steps taken to uphold Judge Wasservogel's injunction and to have the Knoll company punished for contempt of court. Hearings were held in the Supreme Court at which Metz Laboratories presented specific evidence. Knoll & Co. admitted sales in violation and was fined $1,000 to be paid to Metz Laboratories plus the expenses of the referee amounting to $305.

Amer. Pharm. Corp. Formed

American Pharmaceutical Corp., Louisville, has been organized to manufacture proprietaries under the trade name, "Ja-Neuro". Officers are president, J. M. Richards; vice-president, Dr. J. A. Dodson; secretary, J. R. Williams; treasurer, J. L. Hooper.

Bruce's Juices Takes Florida Oil

Bruce's Juices, Inc., Tampa, has absorbed the Florida Citrus Oils Corp. and Kingsway Products, Inc. The company will continue to make those products on which it has already developed a large business, such as natural juices, concentrates, pulp juices and other forms of marketable pulp products, cold pressed, distilled and terpeneless oils. Markets for other raw materials used by the beverage, confectionery and baking industries will be expanded along lines already developed.

Norton Expands Products

Norton Laboratories, Inc., Lockport, N. Y., molder of plastics, has announced the expansion of its business to include creation and design of containers, trays and other specialties for manufacturers of toilet preparations.

Monsanto Makes Tricresyl Phosphate

Monsanto Chemical Works, St. Louis, has begun the production of tricresyl phosphate. This product is widely used as a plasticizer in compositions of cellulose esters or ethers which are employed as lacquer bases, molding plastics, textile coatings and for many other purposes.

Vadsco Distributes Liniment

Mike Martin Liniment Co., Inc., Washington, D. C., has appointed Vadsco Sales Co., New York, exclusive distributor for the world.

Zonite Canadian Plant Opened

Zonite Products Co., Ltd., of Canada, formally dedicated its new manufacturing plant at St. Therese, Quebec, on February 1.

Petrolagar Completes Laboratory

Petrolagar Co., Chicago, has completed construction of a modern, scientific laboratory on McCormick Boulevard, that city.

Pacific Coast Changes

Pacific Coast Borax Co., New York, has made some changes in its executive staff which now consists of the following: R. C. Baker, president; C. B. Zabriskie, vice-president, treasurer, and general manager; F. M. Jenifer, vice-president and general manager; F. T. Winters, secretary and assistant general manager.

Anchor Cap & Closure 22nd Annual Dinner at Canners' Convention

Seventh Annual Dinner

OF THE

DRUG, CHEMICAL AND ALLIED TRADES

◆

DINNER COMMITTEE

Percy C. Magnus,
Magnus, Mabee & Reynard, Inc.

Francis J. McDonough,
New York Quinine & Chemical Works

S. Barksdale Penick,
S. B. Penick & Co., Inc.

Charles A. Prickitt,
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S. W. Fraser,
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A. Bakst,
Bakst Brothers

Gustave Bayer,
Merck & Co. Inc.

C. Leith Speiden,
Innis, Speiden & Co. Inc.

Albert A. Teeter,
Chas. Pfizer & Co. Inc.

Victor E. Williams,
Monsanto Chemical Works

Ray C. Schlotterer,
New York Board of Trade, Inc.

The Drug, Chemical and Allied Trades Section of the New York Board of Trade on this occasion acts as host to the manufacturing and wholesale branches of the industry in the New York and Metropolitan area.

This annual event develops a closer community of interest and represents the center of leadership in the industry.

The principals and leading executives will be present and the attendance from various sections of the country is as large and representative as a national convention.

The famous reception preceding the dinner provides every opportunity of meeting your friends and making valuable contacts.

It is more important this year than ever to your business interests that you attend. You will find it profitable and enjoy every minute.

Tables are arranged for groups of ten. Make up your group now.

◆

HOTEL COMMODORE

TUESDAY EVENING, MARCH FIFTEENTH

NINETEEN THIRTY-TWO

Reception at six-thirty :-: **$6.00 per cover**

DRUG, CHEMICAL AND ALLIED TRADES SECTION
NEW YORK BOARD OF TRADE, INC.

Ray C. Schlotterer, Secretary :-: ***41 Park Row, New York***
Telephone COrtlandt 7-1414

DuPont Sues Sylvania

DuPont Cellophane Co. has filed suit against the Sylvania Industrial Corp. in the Federal District Court, Wilmington, charging patent infringement. The plaintiff alleges the defendant has infringed five patents, three of them for improvement to a moisture-proof wrapping material, and two for apparatus for coating this material.

Ungerer in St. Louis

E. M. Tysdal, sales manager in St. Louis district for Ungerer & Co.'s line of essential oils, synthetic aromatic chemicals and perfumery materials, visited the New York office of the company for a full week. While in New York, he discussed plans for his extensive territory in 1932 in a series of conferences with various department heads of the company. He returned to St. Louis early this month, visiting Cincinnati, Columbus, and Indianapolis en route.

Jeurell Takes "Seventeen"

Maison Jeurell has taken over the "Seventeen" line, introduced in 1930 by the Colgate-Palmolive-Peet Co., Chicago. The latter company will act as distributors of the line.

Ritz Perfume New York Office

Ritz Carlton Perfumery Corp., New York, distributors for Ritz Perfume Co., Brooklyn, have opened new offices at 509 Fifth ave., that city.

New Paper Box Maker

Simpson, Inc., Chicago, has been organized to manufacture paper boxes by Charles T. Simpson, formerly vice-president and sales manager of W. C. Ritchie & Co., that city. The new company has located its plant at 6551 West 65 st., Chicago.

Verley Represents Todd

Albert Verley, Inc., Chicago, has been appointed mid-West and Pacific Coast sales representative for A. M. Todd Co., Kalamazoo, peppermint and other domestic essential oils.

Higgins Joins Orange

J. F. Higgins, formerly sales representative of the Consolidated Safety Pin Co., Bloomfield, N. J., has been appointed sales manager of Orange Manufacturing Co., Newark, N. J., manufacturers of metal caps, vanity cases and metal specialties.

Amer. Cosmetic Plants in London

Ponds Extract Co. and Coty, Inc., cosmetics, have both begun the erection of factories in London.

Burroughs Wellcome Rewarded

Burroughs Wellcome & Co., Inc., New York, has been awarded a group trophy for its excellent record in accident prevention amongst employees during 1931 issued in the seventh annual Accident Prevention Campaign of Associated Industries of New York State, Inc.

SEVENTH ANNUAL
STATE-WIDE
ACCIDENT PREVENTION CAMPAIGN
OF
Associated Industries of New York State, Inc.
GROUP WINNER
1931
Awarded to the
Management and Employees of
BURROUGHS WELLCOME & CO., Inc.
for having completed this Campaign with the best safety record of any firm in the State of a similar size and hazard.
"It is the duty of every man to protect himself and those associated with him from accidents which may result in injury or death."

F. D. Snell to Issue House Organ

Foster D. Snell, Inc., Brooklyn, consulting chemists, has announced that Leon V. Quigley, counsel on public relations, has been retained as public relations counsel and that a quarterly house organ will begin publication shortly.

Cincinnati Soap Cosmetics

Cincinnati Soap Co., Cincinnati, has removed its plant to Dayton, and plans to add cosmetics to its line. Offices of the company remain in Cincinnati.

New Products

KOBBE LOTION

Kobbe Laboratories, Inc., New York, has added a new cleansing lotion to its line.

HYGELIN

Veritas Products Co., New York, is offering a new antiseptic vaginal jelly, "Hygelin".

PANACOIDS

Reed & Carnrick, Jersey City, N. J., has announced a new addition to its line sold under the trade name, "Panacoids." This is parathyroid with calcium lactate and it is recommended for use in tetany; infectious disease, following gastro-intestinal disorders, and in various phases of female sexual life. It is supplied in tablets containing desiccated parathyroid 1/20 grain and calcium lactate five grains.

FEMININE PRODUCTS

Mas Namssorg & Associates, New York is marketing a new line of preparations under the names of "Pulvis Stalleri" "Suppositoria Stalleri" and "Capsula Stalleri", which are respectively a douching powder, a vaginal suppository and an emenagogue.

LUMODRIN

Winthrop Chemical Co., New York, has announced a new product, "Lumodrin," a combination of ephedrin hydrochloride, luminal and pyramidon for the treatment of affections of the respiratory tract. It is supplied in bottles of twenty-five tablets.

PHEDROCAINE

Colwell Pharmacal Corp., New York, has introduced "Phedrocaine," described as a prompt and efficient surface anesthetic to the mucous membranes.

TX 20

Aaro, Inc., Ames, Ia., is introducing a new antiseptic preparation, TX 20, recommended for ringworm conditions.

A.M.A. Accepts

SERUM

Antimeningococcus Serum, N. N. R., 1931, p. 355, manufactured by U. S. Standard Products Co., Woodworth, Wisc.

PHENOBARBITAL SODIUM

Phenolbarbital Sodium, the monosodium of phenylethyl-barbituric acid, action and uses same as phenobarbital. White, hygroscopic powder, soluble in water and alcohol, insoluble in ether and chloroform.

Phenobarbital Sodium-Gane and Ingram, manufactured by Gane & Ingram, Inc., New York.

VACCINE

Brucella Melitensis Vaccine, manufactured by Lederle Laboratories, Inc., Pearl River, N. Y.

THROMBOPLASTIN

Thromboplastin Local-Squibb, N. N. R. 1931, p. 188, manufactured by E. R. Squibb & Sons, New York.

SURGICAL MAGGOTS

Surgical Maggots Lederle, manufactured by Lederle Laboratories.

DIPHTHERIA TEST

Diphtheria Immunity Test, N. N. R., 1931, p. 383, manufactured by Cutter Laboratory, Berkeley, Calif.

How To Do Away With "streaky" emulsions

Streaky, bubbly spots in your emulsions are signals which distinguish at a glance the faulty from the perfect emulsion. Even the amateur consumer can see them.

HOPKINS' FACTOLAC

TRADE-MARK REGISTERED

---used for both fixed and volatile oils---is a neutral emulsifier which creates creamy, homogeneous mixtures of oil and water and bars out the tell-tale streaks and bubbles. Neither thick nor viscid, HOPKINS' FACTOLAC is sure to give your product the smooth, creamy appearance of rich new milk. An actual tryout in your own emulsions will be well worth while.

WRITE FOR TEST SAMPLE, DATA AND QUOTATIONS

J. L. HOPKINS & CO.

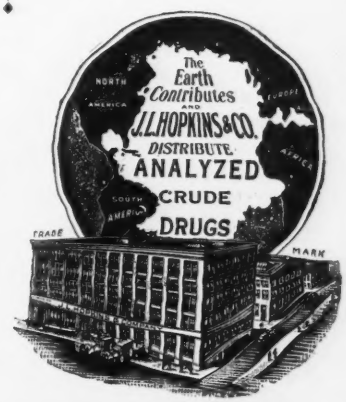
IMPORTERS • MILLERS • MANUFACTURERS

135 William Street New York, N. Y.

HOPKINS' TESTED CRUDE BOTANICALS

Senna — all kinds
Ergot high test
Benzoin select
Rhubarb USP
Cudbear NF
Fennel Seed all kinds
Ipecac Root — high test
Kola Nuts NF
Licorice all kinds
Gum Olibanum all kinds
Orris Root all grades
Psyllium Seed all grades
Quince Seed select
Tamarinds
Senna Pods

Ask for Quotations



CAMPHOR SYNTHETIC

Chemically identical with
natural camphor

MENTHOL SYNTHETIC

Fine natural odor--white crystals. For lower costs in mentholating mouth washes, tooth pastes, shaving creams, etc.

Thymol U. S. P.
Pure White Crystals

Terpin Hydrate
U. S. P. Powdered and Crystals

Terpineol C. P.

Urea C. P.

Urethane U. S. P.

Products of
Schering-Kahlbaum A. G.
Berlin

SCHERING CORPORATION

110 William Street
New York, N.Y.

Sole Import and Sales Agents in the U. S. A. for the Manufacturers.
Stock Carried at New York

GOLD SODIUM THIOSULFATE

Gold Sodium Thiosulfate-Searle, manufactured by G. D. Searle & Co., Chicago.

A.M.A. Rejects

OVARIAN PRODUCTS

Injectable Ovarian Preparations since no acceptable evidence exists for usefulness of such preparations, the Council voted to omit Ovarian Substance Soluble Extract-P. D. & Co., Corpora Lutea Soluble Extract-P. D. & Co., Corpus Luteum Extract-Lederle, Corpora Lutea Soluble Extract-Wilson, and Sterile Solution of Lutein-H. W. & D.

ACRIVIOLET

Acriviolet, manufactured by National Aniline & Chemical Co., Inc., because composition is not declared on labels nor in advertising and because evidence for its clinical usefulness is inadequate.

A.D.A. Accepts

THROMBPLASTIN

Thrombplastin Local-Squibb; Viosterol in Oil 250-D, Squibb; Squibb's Cod Liver Oil with Viosterol 10-D; and Squibb's Cod Liver Oil with Viosterol 10-D Mint Flavored; all of which preparations are manufactured by E. R. Squibb & Sons Inc.

A.D.A. Rejects

KOLYNOS

Kolynos Dental Cream, manufactured by Kolynos Co., New Haven, because it is a tooth paste marketed with therapeutic, chemical and bacteriologic claims which are not supported by adequate evidence.

TEETHING LOTION

Dr. Hand's Teething Lotion, manufactured by Hand Medicine Co., Philadelphia, because composition of product is not given on label, because it is advertised to the public in such a way as to encourage indiscriminate medication, and with unwarranted therapeutic claims, and because it has a therapeutically suggestive name which tends to encourage indiscriminate medication.

DR. HUBBEL'S FORMULA

Dr. Hubbel's Formula, manufactured by Hubbel Products Corp., Boston, because it is a product of secret composition; tests for determining the potent or important constituents are not furnished; it is advertised directly to the public and through the profession for the self-medication of deep seated dental diseases, pyorrhea and Vincent's infection; it is marketed with unwarranted therapeutic claims; the name is objectionable as it does not indicate the potent ingredient of the mixture; and it is an unscientific mixture and hence inimical to the best interests of the profession and the public

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Removals

P. R. DREYER, INC.

P. R. Dreyer Inc., New York, essential oils and aromatic chemicals, factor in cod liver oil, and representative for Bertrand Frères, Grasse, France; Vanillin Fabrik, Hamburg, Germany; H. Raab & Co., Roermond, Holland; Paolo Vilardi, Reggio Calabria, Italy, and Constantin Mintcheff & Ketchedjieff, Kazanlik, Bulgaria, has moved offices and warehouses to larger and more convenient quarters at 12 East 12th street, that city. At the new address, the entire ninth floor of a modern building will be occupied. New telephone number is STuyvesant 9-5566.

H. W. HENNING

H. W. Henning & Son, New York, brokers in crude drugs, gums and oils, announces its removal to larger quarters at 80 John street, that city, Rooms 1706-7, on February 26. The company, which is owned by V. P. McManus, has been located on Cliff street for eleven years.

A. JONCAIRE

A. Joncaire, Inc., Boston, has moved into new headquarters at 145 South st., that city.

LEVER BROS. N. Y. OFFICE

Lever Bros. Co., Cambridge, Mass., has transferred its New York sales offices to 450 Seventh ave., that city.

MAJESTIC SPECIALTIES

Majestic Metal Specialties, Inc., New York, metal closures, vanity cases and other metal specialties, has announced its removal to larger quarters at 200 Varick st., that city, on or about March 1.

NATIONAL PHARMACEUTICAL

National Pharmaceutical Manufacturing Co., Baltimore, has announced the removal of its plant to larger quarters at 311 South Charles st., that city.

STUDIO COSMETIC

Studio Cosmetic Co., Hollywood, has moved into its new plant at La Brae ave., that city.

J. J. Schieffelin Wedding

John Jay Schieffelin, son of William Jay Schieffelin, president, Druggists' Supply Corp., New York, is to be married, March 11, to Miss Lois Linden Smith, of New York.

Retail Outlets

Drug Store Survey Progress

National Drug Store Survey Committee, meeting in Washington, January 26, announced a general conference of the entire drug trade in St. Louis, April 25 to 27, to receive the results of the national drug store survey conducted in that city by the Department of Commerce.

The conference, which will coincide with the annual gathering of wholesale drug salesmen in St. Louis and with the meeting there of the executive committee of the National Wholesale Druggists Association, will be mainly for the purpose of enabling wholesalers to spread results of the survey to retailers. The twelve months of field work of the survey will be completed April 1 with a final inventory, and while study and compilation of the data gathered will occupy another year, several sections of the study will be completed by the time of the April conference and partial reports will be available on other phases.

Drug Distribution Facts

Plants engaged primarily in manufacturing perfumes, cosmetics and other toilet preparations sold their products in almost equal amounts to wholesalers and retailers in 1929, according to data gathered by the census of distribution of the Bureau of the Census, Washington, which showed that total sales by 815 plants in the industry were $193,441,000, of which 44.9 per cent., or $86,862,000, went to wholesalers while 43.1 per cent., or $83,430,000 was sold to retailers, including beauty parlors and barber shops. Sales to household consumers made largely through house-to-house agents or by mail, amounted to 6 per cent., or $13,128,000 and the remainder of the total went to manufacturers own retail branches and industrial consumers.

Capper-Kelly Hearing

Many representatives from the drug trade appeared before the Senate committee on interstate commerce during the week of January 25 endorsing the Capper-Kelly price maintenance bill. Witnesses included Samuel C. Henry, secretary of the National Association of Retail Druggists; W. Bruce Philip, Washington counsel of the N. A. R. D.; E. F. Kelly, secretary of the American Pharmaceutical Association; Samuel L. Hilton, chairman of the legislative committee of the A. Ph. A.; Eugene C Brokmeyer, counsel of the Federal Wholesale Druggists' Association and the International Beauty and Barbers Supply Dealers Association; Robert L. Swain, deputy food and drug commissioner of Maryland; Samuel Y. Harris, representing the Baltimore Retail Druggists' Association; H. H. H Robinson, of the Henry B. Gilpin Co., Baltimore drug

Coughs and Colds Still in Season

Exceptional grades of Horehound, Elder Flowers, Linden and Althea Roots and Leaves are ready for prompt shipment. The stocks obtainable from us right now are fresh and test high in therapeutic content. Inquiries for samples and prices cordially invited.

Also

Chamomiles
Dandelion Root
Stramonium
Belladonna
Linden (Tillia)
Henbane
Alcanet Root

BLACK FRENCH • INDIAN BLONDE
PSYLLIUM

BY REASON of our first-hand dealings with well-reputed sources of supply and our direct sales (in bulk) to manufacturers and distributors, our Black French and Indian Blonde (Triple Cleaned) Psyllium will be found as attractive in current prices as they are in high quality. Samples and quotations on request.

Already entrenched as a superlative laxative, free from the ill after-effects common to conventional cathartics, other medicinal uses for Psyllium are receiving much attention. Among those of most importance are its therapeutic values in cases of dysentery, diarrhoea, derangements of the digestive organs, catarrh, etc. Alert manufacturers should profit by leadership in developing effective Psyllium remedies.

BAMBERGER BLOCH & LANDESMAN, INC.

35 FRONT ST. NEW YORK, N.Y.

30 Klauzal Ucca - - - Budapest, Hungary.

NEW CROP PERSIAN QUINCE SEED

According to our exacting medium of test our new crop Seed measures up to our high standard of mucilaginous content.

This means that we are again in a position to offer you an intelligent basis upon which to purchase your Quince Seed requirements.

You are primarily interested in buying Quince Seed that has an abundance of clear, water-white mucilage.

Send for samples and compare

JOHN POWELL & CO., INC.

114 East 32nd Street New York, N. Y.

POWCO BRAND
REG. U.S. PAT. OFF.

Neutral Powdered Soaps
Laboratory Controlled

wholesaler; Julius H. Reimenschnider, N. A. R. D.; Harry H. Miller, New York Pharmaceutical Conference; and William H. Wiseman, the Armand Co., cosmetic manufacturer.

Philip Conference

On February 8, at the Pennsylvania Hotel, New York, Bruce Philip held his long heralded conference with manufacturers looking toward a plan which would improve the retail drug situation so far as cut prices are concerned. Present at the meeting were relatively few manufacturers, a few retailers, and many trade paper representatives waiting to gather some news. Of the Drug, Inc., group of companies only Bristol-Myers was represented by Earl Means. Squibb was represented by Joseph Hearn, Clyde Eddy and Frank Keeler. Carl Weeks of Armand attended the meeting. Murray Breese of Health Products came in the afternoon. Lambert was represented.

The morning session was largely taken up with a report by Dr. R. B. J. Stanbury who gave an outline of the recent Canadian survey. Closing the morning session questions were asked of Dr. Stanbury from the floor. Dr. Stanbury's statement that a manufacturer in Canada could force maintenance of prices through the second, third, fourth, etc. hands, was challenged from the floor by men who said they knew better. The subject was not debated.

The afternoon session was led by Mr. Philip who was attempting to have the meeting arrive at some definite conclusions. Manufacturers present were asked if they selected their customers. They were then asked if they believed that selection of customers resulted in any benefit. Although practically all manufacturers present did select customers, they were all of the opinion that selection of customers is of doubtful benefit today.

Groceries and Drugs

National Grocery Co., New Jersey chain, has discontinued the sale of medicinal products and Clarence Saunders, Memphis, groceries and meats, has installed a prescription, drug and cosmetic's department in his store there and is said to be planning to extend this to other stores in his chain.

Special Macy Sizes

Elizabeth Arden and Dorothy Gray, New York, cosmetics, have arranged to make special sizes of their products to be sold exclusively by R. H. Macy & Co., department store, that city. A list price will be given to these special sizes and Macy will be permitted to cut 6 per cent. from these prices in line with its advertised policy. Where regular dealers carry a two-ounce jar, for example, Macy will have the specially made two-and-a-half ounce jar, and the list price for this latter size will be higher than that of the regular two-ounce size. In return for this concession by these companies, it is understood that Macy will not carry in stock or make any effort to secure the regular sizes in competition with other dealers. Other large department stores are said to have approved this plan and Macy is said to be negotiating with other large cosmetic manufacturers with a view towards obtaining other lines on the same basis.

Retailer Liable

A retail druggist is liable under the Minnesota law when untoward results follow the taking of a medicinal preparation manufactured for him and sold under his name, the supreme court of that State has ruled.

The case before the court arose out of the poisoning of a man, alleged to have been caused by own-name cold tablets sold by the Haney Drug Co. The tablets had been manufactured for the Haney Co. by D. C. Leo & Co., the manufacturer not being served in the action.

The supreme court held that the druggist was not relieved of liability in the sale of the cold tablets by the statutory provision relative to the responsibility of sellers of proprietary medicines. In this connection, the court defined a proprietary medicine as follows:

"We believe that a medicine cannot be considered proprietary unless the original package in which it is contained bears the name of the manufacturer. If it does not, it comes within the rule applied to other medicines and drugs sold by a druggist, and for the quality of which our statute holds him responsible. As we read the record there was no evidence to support a finding that the tablets were a proprietary medicine."

Nanheim Profit Sharing

Nauheim Pharmacies, Inc., New York, chain stores, has adopted a plan by which every manager of a Nauheim unit is to receive one-third of his stores net profits at the end of the year.

Dow Drug Appoints Smith

Dow Drug Co., Cincinnati, chain stores, has appointed C. K. Smith general manager of the company's Pittsburgh division.

Receiver for Lane Drug

Lane Drug Stores, Inc., Atlanta, Ga., chain stores, is now in the hands of receivers and negotiations for the reorganization and refinancing of the company are said to be in progress.

Retail Merger

Retail Department Stores of America, New York, has acquired all rights to Schulte-United Stores, Schulte-United, Inc., and Millers, Inc.

Hy-Pure Convention

The eighth annual convention of the National Guild of Hy-Pure Druggists will be held in Cincinnati, Ohio, June 28 and 29, with headquarters at the Cincinnati Club.

Psyllium in New N. F.

It is reported that the committee on Revision of the National Formulary has now under consideration the adoption of a title and definition of mucilaginous seeds, the category embracing Plantago psyllium, Plantago loeflingii and Lallemantia royleana.

Cod Liver Oil Calendar

Norwegian Cod Liver Oil Association, Bergen, Norway, has issued a very attractive calendar illustrated with scenes from Norway. This was prepared by Fabritus, Oslo, Norway.

Winner of National Pharmacy window display award —Hausmann Pharmacy, Philadelphia

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Associations

Gogo—Dinner Chief

As the hour for the big event of the year for the drug trade approaches—the Seventh Annual Drug Trade Dinner—sponsored by the Drug and Chemical Section of the New York Board of Trade and to be held at the Hotel Commodore, New York, March 15, there steps into the limelight one of the best known and widest figures of the industry. From the gentle slopes of Southern California to the rock-bound coasts of Maine, which includes Platt and Cliff streets, one name is on everybody's lips—B. J. (Barney) Gogarty, known to his few intimates, numbering about 31,416, as "Gogo."

Barney is one of the Brooklyn Gogartys, being born in that hamlet some years ago of poor but Irish parents. After unremitting struggle he finally broke into the

Commander Gogarty

alcohol industry which, with the aid of the Browns, the Grimms, the Neumanns, the O'Shaughnesseys, the McInnises, and with some help from the Wafers, he has practically dominated ever since. But it seemed as if his peculiar talent was to go unrecognized for it takes genius to recognize genius.

But this genius was present in the persons of the executive committee of the Drug and Chemical Section of the Board of Trade. They asked Barney to act as chairman of the reception committee and commanding major domo of the annual dinner at the Hotel Commodore, March 15. Under his command they have placed a battalion of men who are already being drilled by Chairman Gogarty in the fine arts of making a thousand or more people feel at home. And Barney and his battalion can do it.

Members of the executive committee who recognized this genius are Percy C. Magnus, Magnus, Mabee & Reynard, Inc.; Francis J. McDonough, N. Y. Quinine & Chemical Works; S. Barksdale Penick, S. B. Penick & Co., Inc.; Charles A. Prickitt, Upjohn Co.; S. W. Fraser, Burroughs Wellcome & Co.; A. Bakst, Bakst Bros.; Gustave Bayer, Merck & Co.; C. L. Speiden, Innis, Speiden & Co.; Albert A. Teeter, Chas. Pfizer & Co.; Victor E. Williams, Monsanto Chemical Works.

At Packaging Exposition

"Packaging Drugs & Cosmetics", a section of "THE DRUG & COSMETIC INDUSTRY," will be present at the Second Packaging Exposition at the Palmer House, Chicago, March 7-12, in Booth No. 406 and Francis Chilson, consulting editor of the section, will address the conference on "Manufacturing Problems Connected with Packaging" on March 10, at 11 A. M. In addition to Mr. Chilson, V. Dodge Simons, Jr., Chicago representative of THE DRUG & COSMETIC INDUSTRY, will be on hand to greet visitors to Booth No. 406.

The six-day program of conference and clinics follows: Monday, March 7, 10-11 A. M., "Packages from Consumer Point of View," Katherine Fisher, Good Housekeeping Institute, New York; 11-12, "What is an Effective Package?" Ben Nash Products Developing Co., New York; 2.30-4.30 P. M., Package Clinic, Irwin D. Wolf, Secretary, Kaufman Department Stores, Inc., Pittsburgh.

Tuesday, March 8, 10-11 A. M., "Color and Design in Packaging," Arthur S. Allen, New York; 11-12, "Survey of 1,000 Packages," Wroe Alderson and B. B. Aiken, Bureau of Foreign and Domestic Commerce. Paper will cover results of survey of 1,000 packages in drug stores in St. Louis; 2.30-4.30 P. M., Package Clinic.

Wednesday, March 9, Consumer Marketing Conference—"The Machine Age and Its Relation to Marketing"; 3.30-4.30 P. M., "The Machine Age—Its Effect on the Marketing Organization," A. T. Kearny, James O. McKinsey Co., Chicago; Dinner—6 P. M., "The Machine Age and Consumer Marketing," Irwin D. Wolf. The Irwin D. Wolf Package Competition award and honorary awards will be announced and the winning packages shown.

Thursday, March 10, 10-11 A. M., "Unit Packing," C. E. Allen, Westinghouse Electric & Manufacturing Co., Pittsburgh; 11-12, "Manufacturing Problems Connected with Packaging," Francis Chilson, consulting production engineer, New York City; 2.30-3.30 P. M., "What are Minimum Requirements of Containers?" C. A. Plaskett, Forest Products Laboratory, U. S. Department of Agriculture, Madison, Wisc.; 3.30-4.30 P. M., "New Transportation Developments and Their Effect on Packing and Shipping," Lewis Sorrell, University of Chicago.

Friday, March 11, Job Order Production Conference on Long Range Planning for Production Management; 10-11 A. M., "Effect of Merchandising on Production," Carle M. Bigelow, President, Bigelow, Kent, Willard & Co., Inc., Boston; 2.30-3.30 P. M., "Organizing for Change in Production Management," M. S. Smith, vice-president, Carrier Manufacturing Co., and B. M. Sayre, works manager, same company; 3.30-4.30 P. M., "Estimating the Labor Outlook," William Leiserson, Professor of Economics, Antioch College, Yellow Springs, Ohio.

Saturday, March 12, 10-11 A. M., "Packing and Shipping Economics," Speaker to be announced; 11-12, "Research in the Development of Shipping Containers," Speaker to be announced. Luncheon and Afternoon Session "The Essentials of Profitable Packaging—a Review and Summary of the Conference, Clinic and Exposition," by representatives of a number of package manufacturers.

Among the exhibitors are: Armstrong Cork Co., Lancaster, Penn.; Artcote Papers, Inc., Irvington, N. J.; Bakelite Corp., New York, Better Packages, Inc., Shelton, Conn.; H. R. Bliss Company, Ltd., Niagara Falls, N. Y.; Celluloid Corp., Newark, N. J.; Consolidated Packaging Machinery Corp., Buffalo, N. Y.; The Container Company, Van Wert, Ohio; Container Corp. of America, Chicago; Dennison Manufacturing Co., Framingham, Mass.; Du Pont Cellophane Co., New York; Einson-Freeman Co., Long Island City; J. L. Ferguson Co., Joliet, Ill.; Forbes Lithograph Manufacturing Co., Boston, Mass.; General Box Co., Chicago; General Plastics, Inc., North Tonawanda, N. Y.; Hinde & Dauch Paper Co., Sandusky, Ohio; Interstate Folding Box Co., Middletown, Ohio; Kimberly-Clark Corp., Neenah, Wisc.; Liquid Carbonic Co., Chicago; Lowe Paper Co., Ridgefield, N. J.; National Adhesives Corporation, N. Y.; National Metal Edge Box Co., Philadelphia, Pa.; Norton Laboratories, Inc., Lockport, N. Y; Owens-Illinois Glass Co., Toledo, Ohio; Package Machinery Co., Springfield, Mass.; F. B. Redington Co., Chicago; Riegel Paper Co., New York; W. C. Ritchie & Co., Chicago; Sealright Co., Fulton, New York; Stokes & Smith Co., Philadelphia, Penn.; Sylvania Industrial Corp., New York; Triangle Package Machinery Co., Chicago.

Chain Store Convention

Members of the Associated Chain Drug Stores, 100 or more in number, sailed from New York on February 4, aboard the Furness Bermuda Liner "Monarch of Bermuda" for a sea-going convention of five days, one of which was spent in Bermuda, at the Bermudiana Hotel.

Among the more prominent delegates attending the convention were C. R. Walgreen, president, Walgreen Drug Co., Chicago; M. G. Gibbs, president, Peoples' Drug Co., Washington; F. J. Griffiths, president, Pennsylvania Drug Co., New York; Rae Skillen, Skillen & Sons Co., Dallas; J. F. Gallagher, president, Gallagher Drug Co., Dayton; E. E. Dickinson, president, Dickinson Witch Hazel Co., Essex, Conn.; R. E. Treseder, vice-president

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Essential Oil Association Officers

Essential Oil Association has elected the following officers: president, A. L. van Ameringen, president, van Ameringen-Haebler, Inc., vice-president, Jacob Manheimer, Jacob Manheimer, Inc.; secretary and treasurer, Fred Stichweh, James B. Horner, Inc. Members of the executive committee are Joseph B. Magnus, Magnus, Mabee & Reynard, Inc., and Herman Weicker, Dodge & Olcott Co.

Magnus Again Heads Section

Percy C. Magnus has been re-elected chairman of the Drug and Chemical section, New York Board of Trade. Other officers have been re-elected as follows: Francis J. McDonough, vice-chairman; S. B. Penick, treasurer; Charles A. Prickitt, representative of the section on the board of directors of the N. Y. Board of Trade. Albert A. Teeter and Victor E. Williams have been elected members of the executive committee, succeeding Edward Zink and H. J. Schnell, while S. W. Fraser, C. L. Speiden, A. Bakst, and G. Bayer were re-elected to the executive committee.

Philadelphia Drug Exchange Officers

John F. Belsterling was re-elected president of the Philadelphia Drug Exchange for 1932. Other officers include vice-president, Harrison S. Hires; secretary, Joseph W. England; and treasurer, F. L. Bodman. Board of directors consists of J. Mervin Rosenberger, Benjamin S. Thorp, H. K. Hineline, H. H. Whyte, Herbert R. McIlvaine, Walter V. Smith, Alexander C. Ferguson, Jr., and E. L. Brendlinger.

St. Louis Associations Elect

Drug, Chemical and Allied Representatives Association of St. Louis has elected the following officers: President, Richard T. Dunn; Vice-presidents, Paul E. Gilman and Charles Schall; secretary, Charles L. Rogers; treasurer, Hugh J. Thompson. The following were elected to the board of governors: Leon Broyer, John M. Joyce, G. Clifford Wade, Carl Wegner, Edward Baltzer, John A. Veaszey, Charles J. LaMothe, Leo P. Schatzman, Harry J. Stockmann, and James H. O'Brien.

Richard T. Dunn, of the Dick Dunn Co., St. Louis, was re-elected president of the Drug & Chemical Association of St. Louis.

The other officers of the association are: Paul E. Gilman, The Armand Co., Des Moines, first vice-president; Charles Schall, the J. Hungerford-Smith Co., second vice-president; Charles L. Rogers, Robert P. Gust Co., secretary; and Hugh J. Thomsen, of the Nyal Co., treasurer.

Members of the Board of Governors re-elected were: Leon Broyer, Mallinckrodt Chemical Co.; G. Clifford Wade, Meyer Bros. Drug Co.; Carl Wegner, St. Louis Wholesale Drug Co.; John A. Veazey, Merck and Co.; Leo P. Schatzman, American Safety Razor Co.; Harry J. Stockman, Jergens-Woodbury Co.; and James H. O'Brien, Pevely Dairy Co.

Three new members were elected to the Board of Governors. They were: John M. Joyce, Stanco Distributors, Inc.; Edward Baltzer, McKesson-Merrell Drug Co.; and Charles J. LaMothe, St. Louis Terminal Warehouse Co.

Salesmen's Dividend Dinner

Salesmen's Association of the American Chemical Industry has announced that a "Dividend Dinner" will be held at the Chemists' Club, New York, February 24, at which time the gathering will be addressed by Lowell Thomas, nationally known for his radio talks sponsored by the "Literary Digest". Incredible as it seems, there will be no charge to members for this dinner and evening's entertainment. To complete the evening, there will be a few short talks from the new officers and discussions of plans for 1932.

Financial

Earnings and Dividends

DRUG, INC.

Drug, Inc. has declared the regular quarterly dividend of one dollar per share, payable March 1, 1932, to stockholders of record at the close of business February 15, 1932.

PARKE, DAVIS

Parke, Davis & Co., has declared for year ended Dec. 31: Net profit after depreciation, Federal taxes and foreign exchange reserves, $6,292,565, equivalent to $1.29 a share on 4,873,517 capital shares.

DOW CHEMICAL

Dow Chemical Co., has declared regular quarterly dividends of 1¾% and 50 cents per share, respectively, on the pref. and common stock have been declared payable on Feb. 15, 1932. At a meeting of the directors held Jan. 19, 1932 it was noted in addition that by the end of January the earnings of the company, after allowing for depreciation and income tax for the period, will be more than sufficient to cover the annual dividends on both preferred and common stock. The fiscal year of the company ends May 31, so for the remainder of the fiscal year the earnings will accumulate as surplus.

NOXEMA CHEMICAL

Noxema Chemical Co., has declared for year ended Dec. 31: Net income after Federal taxes and charges, $165,053, equivalent to $4.20 a share on 39,315 combined common and class B shares, against $98,371, or $2.50 a share, on 39,250 shares in preceding year.

McKESSON

McKesson & Robbins, Inc., has reduced its bonded indebtedness by the sum of $686,000 since January 1, 1931, according to a statement made January 28, which indicated that this was accomplished by purchases of the company's twenty-year 5½ per cent. debentures. In the last six months of the year the company acquired $317,000 par value of its outstanding debentures at an average under 58. The company now has fulfilled all sinking fund obligations up to and including July 15, it was stated.

Obituaries

Edwin Lee Strong

Edwin Lee Strong, formerly a partner in Strong, Cobb & Co., Cleveland, died January 10, aged 71. His father, Samuel M. Strong, was one of the founders of Strong, Cobb & Co., which was established in 1883. The son joined the business about ten years later and remained active in its direction until about seven years ago. His son, T. S. Strong, is the present president and general manager of the company.

Edward D. Tremper

Edward D. Tremper, travelling representative for Schieffelin & Co., New York, manufacturing and wholesale druggist, died at his home in Kingston, N. Y., January 10, aged 56.

Charles K. Crane

Charles Kitteredge Crane, author of a plan for international control of the manufacture and distribution of narcotics, died of heart disease at his home in Pasadena, January 24, aged 50.

George O. Elmore

George O. Elmore, president, Smith & Nichols, Inc., New York, waxes, died at his home in Orange, N. J., February 7.

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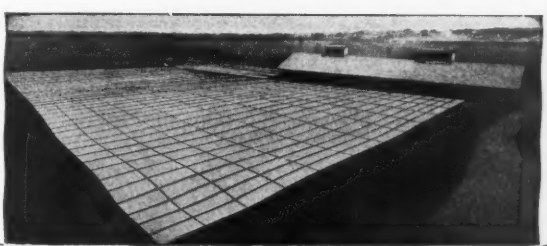

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Louis H. Kingstone

Louis Harris Kingstone, president, R. H. Laird Co., New York, cosmetics, died in that city, February 1, aged 50. He was born in London and before entering the cosmetic business was associated with the Boericke & Runyon Homeopathic Pharmacy, New York.

Paul O. Richmond

Paul Owen Richmond, vice-president and largest stockholder of R. L. Watkins Co., Cleveland, cosmetics and toothpastes, died in New York, January 17, aged 47. He made his headquarters in New York and was a well-known figure in the drug and cosmetic industry.

Industry's Advertising Less

Expenditures for advertising drugs and toiletries in national magazines and national farm magazines were $1,462,695 in January, a decline of 14.2 per cent. from the total of $1,703,623 a year ago. The drop in national magazines was 14.3 per cent., from $1,660,119 to $1,423,592, and in farm magazines was 10.1 per cent., from $43,504 to $39,103, according to Dorrance, Sullivan & Co., New York. $913,814, or 64.2 per cent. of the amount spent in national magazines went for beauty preparations and toilet goods, while $509,778, or 35.8 per cent., was spent for medical and proprietary items.

Anchor Cap Increases Ad's

Anchor Cap & Closure Corp., Long Island City, has made an increase of nearly 60 per cent. in its advertising appropriation for 1932.

"This increase," according to J. H. Gilluley, advertising manager of the company, "is due to the success of our 1931 campaign, and is indicative of our belief and confidence in the future."

This account is directed by James F. Newcomb & Company, Inc., New York advertising agency.

New Incorporations

Glen Drug Stores, Inc., Newark, N. J.—Tumarkin & Kasen, Newark, $125,000.

Sta-Set Mfg. Co., Ltd., Dover, Del., cosmetics, beauty supplies—Standard Corporation Service, $100,000.

Fudo Psyllium Corp., New York City, drugs—C. C. Sormany, 90 West Broadway, $20,000 preferred, 100 shares common.

Marion Rosser Corp., New York City, Cosmetics.

Sherka Chemical Co., New York City, drugs—Briesen & Schrenk, 50 Church St., 200 shares common.

Vigo Laboratories, Bronx, N. Y., cosmetics—J. H. Traynor, 233 Broadway, New York City, 200 shares common.

National Pharmaceutical Laboratories Corp., Wilmington, Del., medicated footpads—Corporation Trust Co., $500,000.

Croxon, New York City, cosmetics—Palmer & Serles, 40 Cedar St., 2,000 shares common.

Davis Medical Co., Glens Falls, N. Y., drugs—M. Geister, Albany, N. Y., $25,000.

Penn-Central Chemical Co., Philadelphia, Pa., chemicals—Corporation Guarantee & Trust Co., 100 shares common.

Lincoln Drug Co., Camden, N. J., chemicals, dyestuffs—Nathan Blank, Camden, $125,000.

United Perfumers, Poughkeepsie, N. Y., cosmetics—J. Gerstein, 271 Madison Ave., New York City, 100 shares common.

Vick Products, Inc., Wilmington, Del., drugs—Corporation Trust Co., Wilmington, Del., 1,000 shares common.

Powder Pouch, New York City, cosmetics—C. E. Frankel, 19 West 44th St., $10,000.

A. F. Part, New York City, toilet articles—Mock & Blum, 10 East 40th St., 200 shares common.

Lilla Reina, New York City, toilet articles—Mock & Blum, 10 East 40th St., 200 shares common.

P. H. D. Products, New York City, drugs—L. Koskie, 1,501 Broadway, $10,000.

Rex Products Corp., New Rochelle, N. Y., celluloid articles—Strouse & Abrahams, 270 Madison Ave., New York City, $450,000 preferred, 500 shares common.

Red Hand Tea Co., New York City, botanical drugs—Van Ness & Van Ness, 220 Broadway, $10,000.

Tulon Products, New York City, chemicals—Griggs, Baldwin & Baldwin, 225 Broadway, $2,000.

Noxacorn Co., New York City, proprietary medicines—A. W. Fribourg, 415 Lexington Ave., $4,000.

Feminine Products, New York City, drugs—Griggs, Baldwin & Baldwin, 225 Broadway, $5,000.

Sherman Drug and Chemical Co., Bronx, New York—L. Mendelson, 1,440 Broadway, New York City. $20,000.

Laray Cosmetics, Inc., Newark, N. J., drugs, toilet preparations—William Goldstein, Newark, $125,000.

Sprayer and Chemical Corp., Wilmington, Del., chemicals—L. S. Dorsey, Wilmington, Del., $250,000.

Southwestern Quicksilver Co., Wilmington, Del., general mining—Corporation Trust Co., $135,000, 100 shares common.

Broza Products Corp., Atlantic City, N. J., toilet articles—Philip Monheit, Atlantic City, $40,000 preferred, 13,000 shares common.

Western Exterminators, Inc., Wilmington, Del., drugs, insecticides, germicides, soaps—M. M. Lucey, agent, Wilmington, $100,000.

The Mentholatum Sales Co., Norfolk, Va., buy, sell and deal in mentholatum and menthol products.

Medical Products Laboratories, Inc., Philadelphia, Pa., alkalies, Chemicals—Corporation Guarantee and Trust Co., $1,000,000.

Quaker Herb Gardens, Inc., Newark, N. J., manufacturing medicines, tonics—Leo Cluesmann, Newark, $25,000.

Arli Corporation, Wilmington, Del., drugs, other chemicals—Corporation Trust Co., $200,000

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WOOLWORTH BUILDING NEW YORK CITY

Drug Markets

Review of conditions affecting markets and prices of chemicals, aromatics, essential oils, flavors, crude drugs and other raw materials, together with an alphabetical list of market prices.

Section also contains condensed review of patents and abstracts of particular interest to the chemist and those in charge of technical control.

Alcohol Schedule Holding

Despite reports that consumption of denatured alcohol has been something of a disappointment due to the mild weather that has been more or less general throughout the greater part of the United States this winter, the market is steady with the price schedules recently introduced by the distillers being maintained without exception. Stocks, however, in the hands of resellers seems to be plentiful and there is a tendency noted on the part of these resellers to shade their asking prices below the prevailing schedules of the producers, in some cases from 4c to 5c per gallon below the actual market. This is a natural development on the part of resellers in the anti-freeze business at this time of year as they do not wish to carry over large quantities of this grade of alcohol which would have but a nominal sale with the close of the cold weather.

The distillers themselves, however, are optimistic with regard to the future as internal conditions in the trade are greatly improved. Cooperation among producers is on a much better basis so that, although a smaller volume of business is being done that business is on a profitable basis and offers a satisfactory financial return to the industry.

The concensus of opinion among distillers at this time is that the newly put into effect price schedules will be easily maintained, and that the expiration of the present price schedules on April 1 will see a renewal on a basis no lower than now prevails.

Glycerin Market Steadier

Some improvement is noted in the glycerin market over the very dull position this commodity had worked into with the turn of the year. The price for domestic production seems steady at 11½c per pound for chemically pure. Crude is also unchanged in price with the situation reported as of distinct favor to buyers.

Santonin Firm

Santonine is very quiet but firm at from $100 to $107 per pound. Imports for 1931 amounted to only 714 pounds, as compared with 1,566 pounds imported during the year 1930.

Camphor Stronger

Although trading in camphor is reported to be irregular at this writing the market is quite firm and the greatly increased importations during 1931 do not seem to have had a weakening effect on the spot market. The powdered grade is said to be in small supply but that this is only temporary as fairly large shipments are expected to arrive shortly.

A Department of Commerce report states that imports of natural crude camphor into the United States during 1931 gained appreciably in both quantity and value over 1930 purchases. Imports of natural refined camphor increased in quantity but were lower in value. Synthetic camphor purchased abroad dropped in both quantity and value. Import statistics follow:

	1930	*1931*
	Pounds	*Pounds*
Crude	1,058,400	2,009,700
Refined	1,031,000	1,151,800
Synthetic	2,404,700	1,798,100

After a decline during 1927 and 1928, the production of camphor in Japan is reported to have gained in 1929 and 1930, an estimate for the latter year placing the total crude camphor output at 2,800,000 pounds valued at about $840,000.

Cream of Tartar Down

Cream of tartar, effective as of January 28, has again been reduced 1c per pound and is now being offered at from 19½c to 20c per pound as to quantity. This movement is in line with the general deflation of values for this commodity. The competition offered in this market by the imported material was, to a large extent, instrumental in starting the now acute competitive condition and the declining tendency does not as yet seem to have run its course.

Vanillin Imports Down Sharply

Vanillin imports into the United States, entered for consumption during 1931, according to a Department of Commerce Report, decreased 87 per cent. to 3,453 pounds, from 27,674 pounds received in 1930. Incoming shipments of ethyl vanillin, however, doubled from 2,087 pounds in 1930 to 4,154 pounds in 1931.

Menthol Strengthens

The menthol market, which had been easier during the latter part of January, selling down to $3.15 per pound in case lots and $3.30 per pound for less than case lots, has now strengthened up with spot orders being taken on the basis of from $3.25 per pound to $3.45 per pound. Undertones at this level are quite steady.

The situation in the primary market, it is reported, has caused considerable uneasiness on the part of consumers in this country. This is reflected in the large number of inquiries received by dealers here from their customers relative to the possibilities of future developments. While it is true that the foreign situation has possibilities these remain to be developed into the stronger situation that would send prices higher. It is reported, however, that the Japanese are not unaware of the uncertainty created by developments in the Far East and are prepared to take any advantage from a price standpoint that would be consistent with events. Their asking prices have already been increased and from a perusal of their policy in the past it is a foregone conclusion that they will add to their price all that the traffic will bear.

Trading has improved in the spot market but it is still of a conservative nature and not sufficient to warrant increasing prices much higher.

Cod Liver Oil Steady

The cod liver oil market is comparatively quiet with current prices ranging from $23.00 to $25.00 per barrel as to brand and quantity. Owing to the fact that the heavy consuming season is drawing to a close most of the orders now being received are for small quantities and prompt delivery.

Fishing in Norway has already started but the catch has as yet been very small owing to the rough weather.

Shipments from Lofoten for 1931 totaled 92,302 barrels, being slightly in excess of the 1930 exports of 92,269 barrels. The production for 1931 was approximately 57,000 barrels, so that the carryover this year will be considerably less than in previous years.

Bismuth Price Reduced

The decline on January 18 in the various bismuth preparations is attributed almost entirely to the lower cost of the metal. The metal market in London declined, it was said, in order to offset the higher Sterling exchange that had prevailed for some time.

The new price schedules are as follows:

Bismuth:		
Chloride	$2 55	per lb.
Nitrate	95	"
Oxychloride	2 60	"
Salicylate	1 55	"
Subcarbonate U.S.P.	1 35	"
Subcarbonate X-ray	2 30	"
Subgallate U.S.P.	1 45	"
Subnitrate U.S.P.	1 20	"
Subsalicylate U.S.P.	2 25	"

Mercurials Steady

Due to an absence of further weakness in the raw material market, the mercurial group remains stable. The undertones, after the reduction of a month ago, is firm. Demand for calomel is good and well up to seasonable expectations. Ointment is less active but still the movement compares favorably with that prevailing at the close of the year. Bichloride had a normal call.

Eucalyptol Lower

Eucalyptol has been reduced in the spot market to the basis of from 55c to 60c per pound. This is said to be due to the lower cost of eucalyptus rather than to any falling off in the demand for the article itself.

Coumarin Imports Greater

United States imports of coumarin entered for consumption during 1931 amounted to 10,650 pounds, an increase over the 1930 receipts of 6,327 pounds. During 1931 there were also received 15 pounds of methyl coumarin compared with none in 1930.

Phenolphthalein Down 8c

A reduction of 8c per pound featured the market on phenolphthalein as a result of a quiet demand and a keen competitive condition in the item. Single barrel lots are now offered at 72c per pound. Five pound cans in 100 lb. lots are quoted at 80c per pound.

Terpin Hydrate Price Cut

A competitive condition has developed in terpin hydrate. The market has been reduced 2c per pound and is now generally selling at from 33c to 35c per pound. It is reported that consumption of this commodity has been falling off and as a rule sellers appear to be rather anxious to move stocks. The reduction, it is said, has failed to bring out an improvement in demand.

Mercury Market Firmer

A firmer undertone is noted in the mercury market. This commodity, which has been very weak for a long time, shows signs of stability. Spot quotations remain unchanged on the basis of from $66 to $67 per flask. Production has been decreased due to the fact that a number of the domestic mines have been forced to close being unable to produce mercury at the very low prevailing prices. It is reported that stocks on the Coast are small.

Although trading is restricted to but small quantities at present it is generally anticipated that the entrance into the market of one or two of the larger buyers would result in a higher level of prices.

The London market on mercury is easier, latest advices quoting £17 15s a bottle for fair quantities. London is now again becoming the world center for the sale and distribution of the Spanish-Italian group of producers. It is unlikely, however, that the foreign market will show any strength for a long time to come as production there is above immediate requirements and stocks on hand are exceptionally large.

Psyllium Prices Hold

Psyllium seed continues to meet with a satisfactory request with prices being well maintained. Black seed is quoted at from 22c to 25c per pound as to quantity and quality with the blonde seed continuing to be offered at from 8c to 10c per pound. Consumption of this material is said to be holding up in good volume.

Having developed the likelihood of successful psyllium seed cultivation in Greece an individual has stated that he has an exceedingly large acreage under cultivation. Five-year leases have been made with approximately 300 farmers. The yield from this source last year is said to have totaled 25,000 pounds. The entire quantity, however, was resown in Argos and Kastri (Peloponnesus) to increase the cultivated area for the 1932 crop.

The Department of Commerce reports that imports of plantago psyllium and other mucilaginous seeds during the first 11 months of 1931 attained a record level, amounting to 4,171,500 pounds valued at $589,000. Heavier purchases of psyllium seed from France during October and November brought the French supply up to 2,218,000 pounds for the period, as compared with mucilaginous seed imports from India, totaling 1,569,500 pounds, Germany 232,700 pounds, Spain 74,000 pounds, Italy 40,300 pounds, and other countries 37,000 pounds.

It is reported that the Committee on Revision of the National Formulary has now under consideration the adoption of a title and definition of mucilaginous seeds, the category embracing Plantago psyllium, Plantago loeflingii, and Lallemantia royleana.

Quinine Price Advanced

The feature of the market for fine chemicals during the past month was an advance of four cents per ounce in the price of quinine sulfate. All salts of quinine were advanced by amounts ranging from two to five cents per ounce. This brings the price of the sulfate back to where it had been for many years prior to the serious competition offered in this country to the Dutch monopoly by an independent Dutch quinine manufacturer.

The reason why the monopoly was able to advance the price lies in the report that the monopoly has bought out this independent manufacturer just as the monopoly some years back bought out a Japanese independent quinine manufacturer who was disturbing the market in this country.

Since the reduction in quinine had been in effect, quinine was selling cheaper in this country than it was selling abroad. This gave an importer in this country the opportunity to reship his goods to England and still have a small profit. With the current advance the price of quinine is the same throughout the world just as it was before the decline.

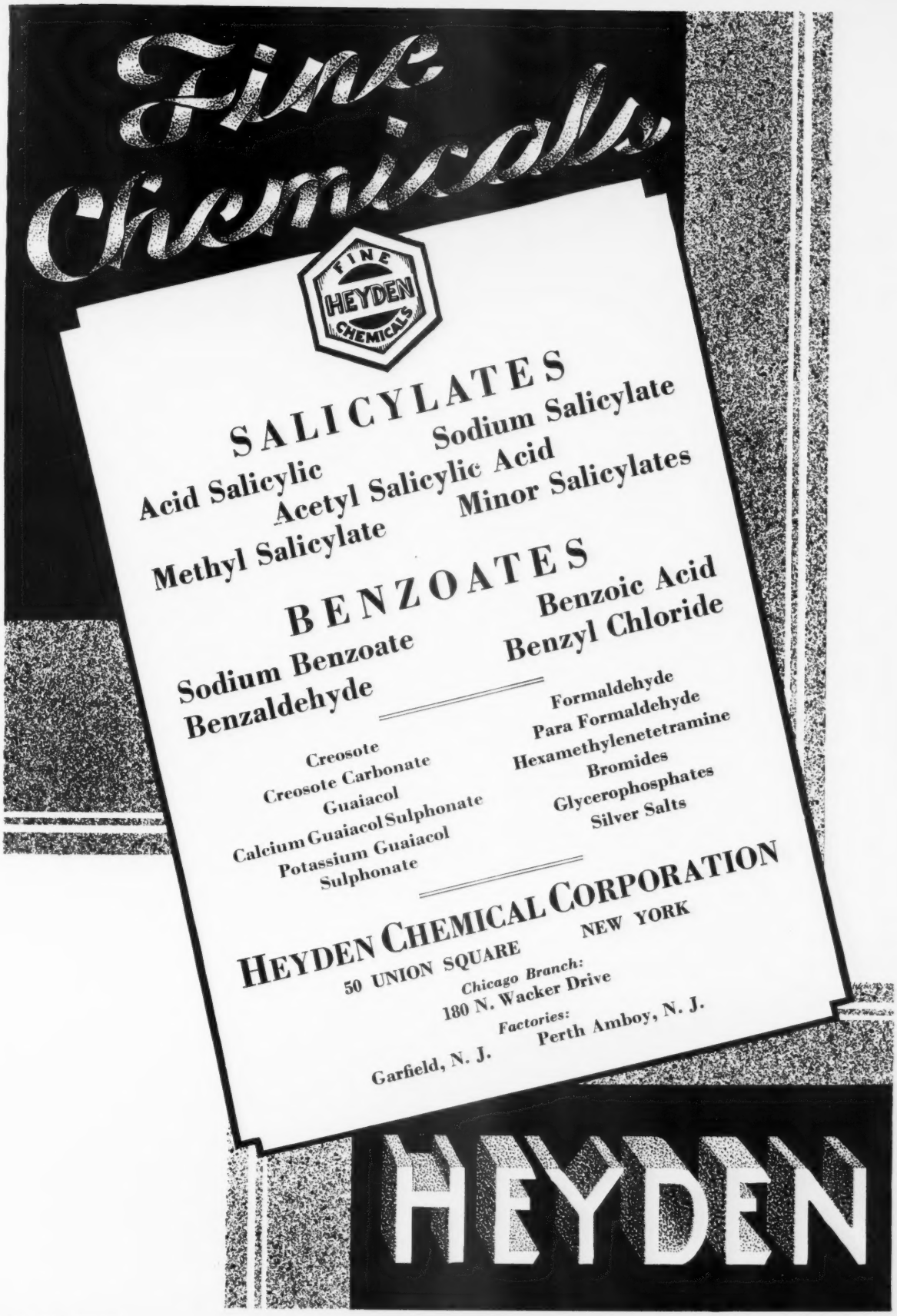
The new price schedule is as follows:

Sulfate	40c
Acetate	74c
Arsenate	76c
Benzoate	74c
Bisulfate	40c
Citrate	50c
Dihydrobromide	54c
Dihydrochloride	54c
Ferrocyanide	74c
Formate	72c
Glycerophosphate	92c
Hydrobromide	50c
Hydrochlorosulfate	54c
Hydrophosphite	70c
Lactate	66c
Phosphate	62c
Salicylate	52c
Tannate	40c
Tartrate	74c
Valerate	78c
Urea Hydrochloride	54c

The production of cinchona bark for the entire Netherland India during 1931 is estimated at 11,684,859 kilos, divided 10,339,859 kilos and 1,345,000 kilos between Java and Sumatra, respectively. The estimates are based on returns from 88 estates growing cinchona. In Java the September production amounted to 772,230 kilos, as compared with 140,599 kilos for Sumatra, making the total production from January to September 7,097,305 kilos and 1,110,753 kilos, respectively. (From the trade commissioner's office, Batavia.)

Chamomiles Steady

A satisfactory volume of business is being done in Hungarian chamomile flowers in a very steady market. Prices remain unchanged at 14c to 16c lb.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Grasse Market Facts

By O. C. Zilisch

UNUSUALLY fine weather is reigning throughout the Grasse region at this writing. In fact, the weather is so fine and spring-like that everyone concerned is wondering whether or not it will be followed by adverse conditions and severe cold. Vegetation is, of course, way ahead of itself, and everything is responding in the same way that it does normally in the spring months.

There are certain cultures which the inhabitants of the Grasse region hope will suffer, and among these is the jasmine, a culture that has upset everyone's calculations during the world crisis. As one distilling perfumer of long standing put it: "Bad weather conditions for the jasmine would prove a veritable blessing, bringing accord where discord has existed for months now." No one in the Grasse district can bear to hear the name of jasmine mentioned even.

Stocks of jasmine flower continue to weigh very heavily upon the sluggish market, and everything possible is being done to move some of these stocks into production. This is an old story that has been told over and over again in previous issues of Drug Markets. Those who can afford to buy right now and then hold on are bound to make some money, as prices are really down to absolute rock bottom in certain quarters. There are, of course, some who are holding up the price to some extent, but a number of the holders of jasmine stocks are ready to let go at almost any price, in order to realize some ready cash.

Jasmine Deteriorating

It is interesting to note in going through the Grasse region that many growers are actually allowing the jasmine to deteriorate. No care, in many instances, is being accorded the plants, and they will automatically die off, except for some freak intervention of nature. All of this may have seemed exaggerated to the American buyer during the last months that the reports have been issued on jasmine, but investigation shows that the jasmine situation is really as bad as it has been painted, if not worse. Gloom regarding the jasmine and jasmine products is general in the Grasse district, and has spread somewhat like a disease.

Inquiry among the various distilling perfumers throws absolutely no light upon what is the future. All that seems to pervade the entire situation is a decided lack of movement in business, generally speaking. All are treading water, and no one is doing any predicting of a tangible nature. There is something worse than confusion in the air, and that is an impression that no one knows what to do next. In certain quarters liquid capital for the running of the business itself is so tied up that the parties concerned can not move one way or another.

U. S. Business Dull

Many are looking towards the United States with the hope that things will brighten there soon, as America has always been the best resort for a decent sized business. In several quarters business from the States is reported as having stopped altogether in connection with the general line of essential oils, with the exception of lavender, etc., for some of the soap people, and manufacturers of specialties of different types. This complete cessation of shipments to the United States has served to lower the morale of several firms, and they are casting about in every direction for business of one kind or another. The situation has become acute particularly since the slowing up of French business.

Unemployment in France is on the increase, although not having reached an alarming state at present. Everything humanly possible is being done by the various cities and departments to keep the people working at least a few days a week. France fears unemployment more than any other country perhaps, and no stone is left unturned to maintain workers in some sort of employment, no matter how insignificant.

Naturally, even in these so-called unstable times the wise are organizing their sales forces and getting ready for the break when it does come, preparations being in progress among some of the more farseeing to meet the lifting of the present crisis. The most prevalent sign at the moment is the readiness with which certain firms are looking to unaccustomed channels of business. In other words, sales forces are being organized among the distilling perfumers, in order to open up new types of outlets. A number of culinary and other products are being produced and introduced all over Europe, and the United States territory is being regarded as a possibility by these enterprising firms.

Lavender Weak

Lavender oil is still moving into consumption very slowly, and large stocks are in existence. Transactions are reported as being practically nil, with the result that considerable anxiety exists throughout the region. It is hoped that the months to come will find an opening for some of the stocks, in order alleviate a condition that is far from agreeable for everyone concerned. There are no actual fixed prices at the present time, although prices are quoted at Apt at 50/60 francs per kilogram for good oil. Naturally, lavender oil of all categories can be purchased in the region for prices that range widely, and the situation remains decidedly strained.

This is the rest period for many of the cultures, among which the May rose. Rose trees are developing too well under the present good weather conditions, and it is feared that such development will spell a certain amount of disaster for this important culture. Such disaster will, however, to some extent ease the minds of certain distilling perfumers, if not that of the growers, due to some fairly heavy stocks still remaining in factory unsold. Those who can hold on at the present time feel that when the turning comes they will cash in and big.

Bargains Plentiful

There is no denying the fact that a number of excellent bargains exist in the region, although everyone is moving cautiously despite this fact. No one seems to be in a ready mood to buy, even on this low market. This is, of course, not strange, as few people buy on a declining market, always on a rising market. Efforts have been made from time to time to try to produce a rising market artificially, with no tangible results, as the trade knows. Just what is going to happen throughout the entire essential oil industry is something that is puzzling many of the essential oil people in the Grasse region, because no situation exactly like it has ever occurred, even according to the old timers. Those in the States in a position to buy can pick up some bargains at the present time that will hardly ever repeat themselves in the same way, and those prepared for a long pull can come out way ahead on such purchases.

Clary sage, as the trade knows, had a sensational rise several years ago, with a following decline, due to overproduction. The plant grows like a weed, and many went in for it. Today clary sage plantations are being decreased wherever possible, in order to stabilize and equalize the market conditions a bit.

Overproduction as a word holds much disquietude for the growers in the Grasse region, and one can rest assured that everything humanly possible will be done to keep the same condition from being repeated. There is hardly anyone in the entire region who has not suffered in one way or another. As reported some time ago, attempts have been made to secure a subsidy from the government, to aid the region. This is particularly pertinent at the present time, due to the closing of markets in England, etc., on a number of products from France.

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Lemon Oil Market Puzzling

Developments in the market for lemon oil during the month have been startling to say the least. In the face of an offer which amounts to a sharp price reduction in the American oil, the Italian market has advanced sharply by almost fifty per cent. of its former value. And, while the American price has followed the Italian market in an upward direction, the actual price paid for the American oil remains sharply below the Italian. But to explain.

In the first place the American oil was offered at the regular market price with 25 per cent. of the oil given free. This offer is to remain open definitely until October 31, 1932. This offer means that a buyer may purchase or contract for any quantity of oil from 25 pounds up, to be delivered during the period of the offer, and only 75 per cent. of the goods shipped at any time must be paid for. This makes the price of American oil at any time a full 25 per cent. lower than the price for Italian oil. The offer is made with the intention of inducing consumers of lemon oil to try the American oil, since many consumers have long preferred the Italian oil and probably would not otherwise be induced to try the American product.

But strange as it seems, within a few days after this offer on American oil was announced, the price of Italian oil started to advance, and the market rose from 42 cents c. i. f. to 75 cents per pound, c. i. f. for the lower priced grades. The spot price of the oil naturally advanced considerably, but not by as great an amount since there are plentiful stocks of oil on hand which were brought in at the lower levels.

The Italian market will probably remain in a firm position for some time despite the sharp competition from the American oil. But it remains to be seen just how far consumers will go in swinging to the American oil and thus weakening the Italian position. For there can be no doubt that the Italian strength is largely predicated on what the American market has taken in the past and will take in the future. But the Italian situation is, nevertheless, very firm in its own right.

Authentic advices from abroad state that the size of the present season's lemon oil product will be anywhere from 30 to 50 per cent. of normal. It may come anywhere between these figures, but the amount of oil will certainly not be more than 50 per cent. of normal as there is quite general agreement on this point. The reason why lemon oil production has been cut goes back to the citric acid market. In Italy citrate of lime for citric acid manufacture was the major item so far as processing lemons was concerned. Lemon oil was a by-product of citric acid demand. Now with this country independent of Italy through domestic production of citric acid by fermentation of sugar, the demand upon Italy for citrate of lime has decreased sharply. Under the circumstances Italy can not produce as much lemon oil since the lemon oil must only be in accordance with the citrate production. If the citrate production is reduced, the lemon oil production must also be reduced since lemon oil is only the by-product and can not stand on its own feet.

Under such circumstances it is easy to see why the lemon oil market is firm and strong. But if the response to the American oil free offer should be very great, it is easy to see why the lemon oil market would go lower. For if lemon oil is strong in price only because the citric acid situation has caused a curtailment in production, it is easy to see how further movement of American lemon oil would also make the present production of lemon oil more than enough if the price were held up. Under present market conditions price is a deciding factor when quality is unquestioned. The question of quality not only between the American oil and the Italian oil, but also between the variously priced grades of Italian will continue to be argued pro and con with the consumer attempting to segregate the facts from the plain sales arguments and then deciding by his own experience.

At the moment the Italian market is strong and tending higher.

Bergamot Stronger

While bergamot oil is quiet, advices from Italy during the last week of January were to the effect that the Consortium of bergamot oil producers formed by the government had issued a decree preventing producers of the oil from selling to anyone except as they might be directed by the Consortium. Furthermore, oil producers were notified that they must report to the Consortium their stocks of oil.

Information has been to the effect that the Consortium has been attempting to appoint an agent in Italy or agents in the foreign countries to distribute the oil! However, the demands made upon the agent to be appointed are said to be extremely heavy. He must take a large quantity of oil and immediately pay two-thirds of its value. This oil must be sold within a certain time, and subsequent sales volumes must be guaranteed. It is doubtful if any house in this country will care to take on the agency on such a basis.

As to an immediate advance in the market due to the absolute action of the Consortium, this seems doubtful for the present time at least. There are understood to be quite plentiful stocks of the oil in this country as well as in several European countries. This oil will prevent the Consortium from advancing the market to their ideas of its value until this oil is disposed of. At the same time, the price of this oil will probably advance if the Consortium advances the market. It is expected that the price of oil on spot will stay just under the price of the Consortium oil.

Consul Richard B. Haven, Messina in a Department of Commerce report states that the estimated production of bergamot oil during 1932 is from 300,000 to 350,000 Sicilian pounds. Shipments from January to October, 1931, totaled about 325,000 Sicilian pounds. During 1930, over 771,200 Sicilian pounds were exported.

The bergamot Consortium remained inactive, no agreement having been reached between local exporters not with foreign importers.

Peppermint Oil Unchanged

Reports from the middlewest on peppermint oil failed to show any material change from the recently steady position. Trade is fair but restricted in most cases to small quantities. Natural oil is offered on spot at from $1.40 to $1.45 per pound and redistilled at from $1.65 to $1.70 per pound. Stocks both here and in the primary market continue heavy.

Due to the fact that overproduction during the past several years has lead to the exceptionally low prices now prevailing, reports indicate that a further reduction in acreage amounting to about 25 per cent. is expected. This would make the reduction total about from 50 to 55 per cent during the past two years.

Lime Oils React Downward

A further sharp reduction is the feature of the lime oil market. A keen competitive condition has arisen resulting in the lowering of quotations to the basis of from $7.35 to $8.50 per pound for distilled oil as to quantity and quality. Expressed lime oil reacted in sympathy with the distilled and is now generally quoted at from $11.25 to $13.00 per pound representing a decline during the month of 25c per pound.

Anise Oil Strong

Anise oil is very firm in the spot market, although no price changes are noted during the past month. The conditions in the Far East have become an increasing matter of concern to local dealers. Although there have been no interruptions to shipments thus far the possibilities of such an occurrence is being closely watched.

Sweet Almond Easier

A reduction of 2c per pound was made during the past month in the price of sweet almond oil. The spot market is now from 40c to 43c per pound as to quantity. Although sales are reported to be along quiet lines the market at the reduced level is said to be firmer.

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Star Anise Nominal

Star anise is in small supply on the spot market with price close to being nominal at from 17c to 18c per pound. In some quarters it is reported that they would not do better than from 18c to 18½c per pound on this item.

Spanish, on the other hand, is in an easy position due to the further decline in exchange. Spot market prices are on the basis of from 7c to 8c per pound. Exports of anise seed from Spain through Malaya, a principal source, to the United States during the quarter ended September 30, 1931, totaled 79,300 pounds as compared with 108,000 pounds during the corresponding period of 1930.

Golden Seal Weak

A buyer's market continues to prevail in golden seal. A lack of demand has proved a stumbling block to price improvement. Low prices for all time have been reached by this commodity with the powdered selling down to $1.00 to $1.05 per pound. It is expected that the very low prices and poor sales will result in a reduction in the cultivation in the primary market.

Ipecac Dull

With very little business passing in ipecac root, dealers here look toward the Spring for improvement. Prices continue at very low levels as a further decline took place during the past month. Carteagna spots are now on the basis of from 90c to 95c per pound, with powdered being offered at from $1.00 to $1.10 per pound. Low replacement costs continue.

Rhubarb Quiet but Firm

Rhubarb root remains quiet but quite firm in the spot market. Sellers here are closely watching the primary market for any signs of the war interfering with shipments to this country. As yet all ports in China are open but as stocks on spot are not heavy any interruptions to shipments would be serious. Good quality high dried is offered here at from 19c to 20c per pound.

Senna Firm

With a fair sized demand on spot all grades of senna are firm. It is reported that the second crop in India will be good and this, it is expected, will offset the small production in the earlier crop.

Senna exports via Port Sudan during the first 10 months of 1931 totaled 437 tons compared with 668 tons in the corresponding period of 1930. Exports of senna by countries of destination during the 1931 period follow: Great Britain 191 tons; Egypt 133; United States 106; Germany 2; and France 5.

Ergot Steady

Due to reports that stocks of ergot in the primary markets are moderate in size all prices here are firm on the basis of from 45c to 58c to cover the various grades. Demand on spot has been moderate but interest in imports parcels gained considerably. Rejections of numerous importations has tended to keep stocks in this market within bounds. Four lots of ergot of rye amounting to 102 bags were detained by the Food and Drug Administration for the week ended February 3.

Kamala Easier

Kamala is easier in the spot market. Price has declined during the past month to the basis of from 40c to 45c per pound. Undertones at this level are still soft as the commodity has been encountering stiffer competition. Demand has been quiet and covered immediate needs only.

Ephedra Supply Small

Ephedra is in small supply on spot. War in the primary market has not as yet affected supplies but should this occur the consequences would be immediate. Consumption is well maintained in a firm market based on asking prices of from 5c to 6c per pound.

Arnica Flowers Lower

A further reduction is the feature of the market in arnica flowers. Offerings are now being made on the basis of from 9½c to 10c per pound. It is reported that due to a long period of inactivity the desire to move stocks is such that shading from these figures is being done where a desirable order is at stake.

Spike Oil Firm

Fair sized quantities of spike lavender oil are reported in the spot market. Prices continue very firm as expressed in quotations ranging from 48c to 75c per pound as to quality. The strength shown in the primary market, when it first became definitely known that production would be considerably below normal, continues. Replacement costs, therefore, continue high and are likely to do so for many months to come.

Bois de Rose Firm

The replacement position of Bois de Rose tended to keep the market here firm and at unchanged levels in spite of the development of competition in this item. Demand has been steady but in small lots. Brazillian is selling spot at from 65c to 70c per pound.

Agar Market Weakens

Bountiful offerings of agar agar from Japan and a not too active consuming interest here has weakened the market for this commodity decidedly. Prices on spot have been reduced sharply during the past month. Number 1 grade is now offered at from 88c to 90c per pound as to quantity with the number two grade offered at from 80c to 82c per pound.

The downward trend in this commodity is expected to continue, reports certain factors. New agar is now being produced and an ample supply of old crop is said to exist both here and in the primary. The freer offering of new crop material has had the effect of creating a desire on the part of shippers in this market to move stocks.

Imports of agar agar from Japan during the first 10 months of 1931 amounted to 475,800 pounds valued at $306,500, as compared with 362,400 pounds valued at $281,500 during the corresponding period of 1930.

Eucalyptus Demand Better

It is reported that consumption of eucalyptus oil has been stimulated by the lower quotations made during the past month. Australian U.S.P. oil is now quoted on the basis of 27c to 28c per pound in cans and the market is firm at these recently established levels. With a stable currency prevailing these prices are said to be likely to remain steady.

Cedarleaf Oil Lower

Cedarleaf oil declined during the past month and is now generally offered at from 75c to 85c per pound. At the new level the oil is said to be steady with business going along quietly.

Angostura is lower in the spot market at from 17c to 18c per pound. Jobbing business alone was noted locally during the past month in that few consumers had reason to purchase in any sizable quantities.

Tonka Bean Demand Improves

Angostura tonka beans are meeting with a somewhat improved demand at the recently reduced levels of prices. Spot goods are now available at from $1.50 to $1.60 per pound. This item is never very active and as stocks are reported to be held in strong hands no further shading of prices is probable.

Celery Seed Advances

A spot scarcity of celery seed has advanced prices to the basis of from 19c to 20c per pound. News of the scarcity, it is reported, has also raised the price in several European countries. Demand on spot is good.

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Oils Lemon, Orange, Bergamot

VANILLIN FABRIK
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Aromatic Chemicals

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Geranium Oil Price Up

The geranium oil market at the present time is in a very uncertain position. Reports are generally current throughout the trade to the effect that the storm that struck Reunion on February 4 did considerable damage and these reports are generally credited by importers and dealers here.

All offers of oil have been withdrawn in the primary market and this has had the tendency to increase the uneasiness here. No definite reports have been received at this writing but local sellers are reluctant to offer very freely until such time as more information is available.

This situation has had the tendency to strengthen the market materially. There are reports current that $4.00 per pound is being asked for the Bourbon oil but this has not been confirmed by leading dealers. No official price increases have been made by these leading dealers and they continue to offer the oil at $3.50 per pound. However, it is stated that precautions are being taken in that future business is being accepted subject to developments in the primary market.

Should conditions prove as serious as the withdrawal of all offers from the primary market would indicate, the Algerian oil, which is now offered at $3.75 per pound as an inside quotation, would also advance sharply. Turkish oil now offered at from $1.75 to $1.90 per pound would also be likely to advance with confirmation of the reports eminating from the Reunion Islands.

A Department of Commerce report states that geranium oil is the principal essential oil produced in Reunion, the cultivation ranking second only to sugar as an agricultural pursuit. The area devoted to its cultivation is estimated at between 25,000 and 30,000 acres. The chief producing districts are in the south and southwest sections of the island, although since the early postwar period, cultivation in the northern districts of Le Vent has been increasing. The crop is said to enjoy most favorable growth at altitudes between 1300 and 2000 feet, although some successful plantations have been reported on land over 3000 feet above sea level. Geranium rose cultivation is largely an activity of tenant farmers or small individual landowners, financed in many instances by the plantation owners or by export brokers for a share of the crop or of the oil distilled.

The harvesting and distillation of the geranium leaves which yield the oil customarily takes place twice a year, between January and April and from August to October, the spring period being the most important. From 8 to 10 pounds of oil per acre is said to be an average yield under present conditions with existing distillation facilities. In the majority of cases, small portable stills are employed.

Vanilla Beans Plentiful

The vanilla bean market is characterized by the plentiful supply and the continued low prices prevailing on Bourbons. In view of the plentiful supply of spot stocks of this grade of beans and an early movement of new crop material, considerable competition is reported. New crop goods are arriving in the French markets, but in view of the current low levels of spot prices few importers are looking for any further reductions. New crop beans are expected to arrive here sometime during the early part of next month.

A Department of Commerce report states that the Madagascar Department of Agriculture estimated the 1931-32 vanilla crop at between 600 to 700 metric tons, with marginal remarks that the local producers were inclined to underestimate their output by threatening the destruction of vanilla pods of inferior quality, the latest information received from commercial sources, usually found to be reliable, would indicate the probable yield of Madagascar's 1931-32 vanilla crop at 550 tons consisting of approximately 160 tons from the Comoro Islands and Nossi-Be and 390 tons from the East Coast. The general local opinion is that the quality of the cure will be fair due to considerable rainy weather at the beginning of the curing season in June and July. It is almost impossible to forecast the percentage of vanilla beans of first quality but the expectation is that about 90 per cent. of the crop will be first quality, and the remaining 10 per cent. of the crop will be of vanilla of inferior grades.

Regarding Mexican vanilla beans, this grade of bean is firm in price at levels which certain quarters consider entirely too high and out of proportion when the value of the Bourbon beans is considered. This is due, it is reported, to the fact that the curers in Mexico pay too high a price for the green beans and these quarters look for an equilization of prices.

American Consul Leonard G. Dawson, Vera Cruz, Mexico, in a report dated December 7, states that owing to the heavy rainfall and the long duration of the rainy season in Papantla and the surrounding country, very few of the green beans have been picked. Picking usually begins in September, but due to the causes mentioned, the beans heretofore picked have been of poor quality. Present indications are that the beans will be in their best condition for picking about December 15. By that time it is expected that the dry weather and the heavy winds, the "northers," will have evaporated much of the excess water in the beans.

No accurate estimates as to the yield of this crop are possible at present. The size of the output depends almost entirely upon the prices paid by the curers to the Indian growers.

Citronella Steady

Ceylon citronella oil is steady and unchanged on the spot market. Shippers in the primary, however, have taken on a firmer idea of the market and comparatively few offers are coming through.

A generally better tone has been noted during the past month as inquiries are beginning to reach the market from manufacturers of fly sprays who are expected to take on larger quantities over the next few months.

Spearmint Quiet

Spearmint oil remains particularly quiet in the spot market. Selling pressure has been induced by the lack of demand here and the prevalence of ample supplies both in the primary and on spot. As a result of these competitive factors prices on spot have been further reduced with the oil now being rather freely offered on the basis of from $1.15 to $1.25 per pound.

The spearmint industry is flourishing in Italy, according to the Genoa correspondent of "Industrial and Engineering Chemistry."

"The cultivation of spearmint was started in 1870 in Italy solely to satisfy domestic consumption, and it was only toward the end of the last century that the large plantations of Piedmont and Lombardy were started," the correspondent says.

"The first commercial results were obtained by Giovanni Varino and by the Frenchman Honore Carlese at Pancaliere, with very encouraging results. The plantations were expanded and new ones started so that today there are plantations scattered throughout the country.

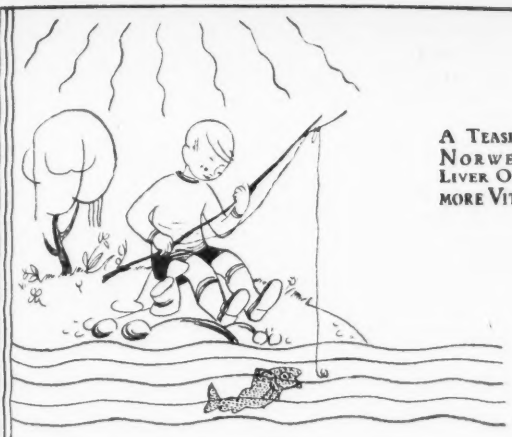
"The industry has advanced rapidly in Northern Italy, where there are 20 distilleries and 150 stills which distill continuously during August and September. In the Piedmont it is a real source of wealth for the rural class, and the farmers who have specialized in the cultivation of this product frequently migrate to other countries to assume positions as experts in the cultivation of spearmint."

Caraway Oil Lower

Caraway oil is slightly lower in the spot market at from $1.45 to $1.50 per pound. The disposition on the part of suppliers of the raw material to sell at lower levels is primarily responsible for the easier tendency of the oil here. Demand is reported as being routine.

Less Lavender from Nice

Exports of lavender oil from the Nice consular district during 1931 show a heavy decline compared with 1929 and 1930. Exports during 1931 totaled about 93,000 pounds valued at $234,000 as compared with 187,141 pounds worth $452,250 in 1930.



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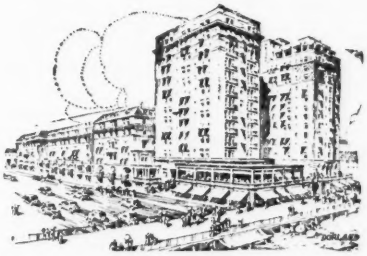

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Patents

UNITED STATES PATENTS

Prostate Hormone Production

Fresh Glands are first ground and dried, and then extracted with petroleum ether to remove fats and other lipoids. Petroleum ether is removed and Glands are again ground to coarse powder, and extracted with sulphuric acid. Solids are removed and acid solution is almost neutralized with concentrated solution of sodium hydroxide. Solution is rendered alkaline with sodium carbonate to precipitate the hormone. Hormone is filtered out and washed and dried. Frank R. Eldred, Jersey City, assignor, Reed & Carnrick, Jersey City. No. 1,835,853, filed November 1, 1927.

Purification of Orthophenylphenol

Crude orthophenylphenol is caused to react with caustic alkali and the alkali metal orthophenylphenate is crystallized and then converted into free orthophenylphenol. Edgar C. Britton, Midland, Mich., assignor, The Dow Chemical Co., Midland, Mich. U. S. P. No. 1,835,755, filed October 22, 1930.

Container for Tooth Paste

A mounting device is attached to a collapsible tube having a soft body and rigid top with bead flange around periphery of top. Mounting device consists of pair of co-operating clamping members constructed and operated to afford and maintain an engagement with body of tube immediately below bead flange. Co-operating members jointly comprise a structure to lap under bead flange for support of tube. Frank Wolf, New York, N. Y. U. S. P. No. 1,835,581, filed December 24, 1928.

Local Anaesthetic

A local anaesthetic, similar to cocaine but not having narcotic action of cocaine, is made by reacting beta-normal-butyl-ethyl-aminoethanol and cinnamoyl chloride. It is hydrochloride of cinnamic ester of beta-normal-butyl-ethyl-aminoethanol. Harvey C. Brill, Cambridge, Mass. U. S. P. No. 1,817,670, filed October 1, 1928.

Physiologically Active Substances

Physiologically active substances from female internal secretory sex organs are purified by saponification. Process consists in treating an impure extract of the organs, which contain fatty acids, with a solid adsorbent of the class of charcoal and kieselguhr. Adsorbents are impregnated with solution of inorganic alkaline compound to saponify fatty acids. Treatment takes place in an organic solvent wherein the alkaline compound and the soaps, that are formed by its action on fatty acids, are insoluble. Solvent is evaporated off and residue is extracted with a neutral aliphatic organic solvent, which will remove physiologically active substances without dissolving soaps or alkaline compound. Max Hartmann, Basle, Switzerland, assignor, Society of Chemical Industry in Basle, Basle Switzerland. U. S. P. No. 1,817,686, filed November 28, 1925.

Orthohydroxybenzylamine-Arsinic Acids

These are new therapeutic products which have the general formula, $C_6H_2.Y.OH.CH_2(NH_2).AsO_3H2$. In this formula, Y stands for a hydrogen atom or the methyl group. Products obtained are colorless crystalline substances of definite melting point. They are difficultly soluble in organic solvents and easily soluble in mineral acids and in alkaline reagents. Werner Schmidt, Frankfort-am-Main-Mainkur, Germany, assignor, Winthrop Chemical Co., New York. U. S. P. No. 1,835,433, filed May 22, 1928.

Synthethic Menthol

Crystalline menthol is made by treating piperitone with hydrogen under pressure in presence of hydrogenating catalyst. Reaction is carried out between 130° and 160° C. until there has been absorbed hydrogen substantially in excess of that theoretically required. John William Blagden, London, England, assignor one-half, Howards & Sons Ltd., Ilford, England. U. S. P. No. 1,811,777 filed June 19, 1924.

Therapeutic Composition

This therapeutic composition consists of a homogeneous and stable mixture of mineral oil and concentrated prune juice. Stanley Bialos, San Francisco Calif., U. S. P. No. 1,816,817, filed September 13, 1927.

Barbituric Acid Drugs

Process is concerned with preparation of therapeutic compounds of 5:5-disubstituted barbituric acids and alpha-phenyl-2:3-dimethyl-4-dialkylamino-5-pyrazolones. Reaction takes place between aikali metal salts of disubstituted barbituric acids and strong mineral salts of pyrazolones. Latter are used in saturated aqueous solutions which form solvent for double decomposition. Fritz Mueller, Basel, Switzerland, assignor. Chemical Works formerly Sandoz, Basel, Switzerland. U. S. P. No. 1,810,846, filed November 20, 1928.

Iodine from Adsorption Carbon

Iodine is obtained in form of iodide from adsorption carbon which contains iodine. Iodine is extracted from carbon at 100° C. with an excess of sodium carbonate solution. Extract is filtered and carbon washed with hot water. Frits Ellinger, The Hague, Netherlands, assignor, Mijnbouw en Handel-smaatschappij "Wohnoh Gedeh," The Hague, Netherlands. U. S. P. No. 1,810,039, filed March 7, 1929.

BRITISH PATENTS

Quinine Double Salt

Quinine lactate and calcium lactate are crystallized together from mixed solutions with or without addition of sodium citrate. Preparation of quinine lactate from sulphate is described. H. Meffert, London, England. B. P. No. 352,115, filed April 15, 1930.

Enzyme Medicinal Preparations

Medicinal substance in nature of an enzyme and capable of dissolving red blood corpuscles is prepared by extracting an endothelial substance, for example the mesentery or omentum of an animal, with alcohol. Material is ground and extracted with 70% alcohol which is then filtered off. Potency of solution is determined by action on red blood corpuscles. Extract is employed hypodermically, alcohol being first evaporated and replaced by water. It is stated to have therapeutic action in cancer causing liquefaction, necrosis and sloughening and new capillary growth. C. F. Charlton, Pasadena, Calif. B. P. No. 355,435, filed July 2, 1930.

Medicinal Preparations

Fat-soluble basic bismuth salts, adapted for treatment of syphilis, are prepared by reaction between a malonic acid ester substituted by a branched radical having at least seven atoms of carbon and a solution of a basic bismuth salt such as nitrate dissolved by means of a polyhydroxy compound, such as mannitol. Production of salts from bimuth nitrate and dipropyl carbinyl malonic ester or octylmalonic acid is described. Salt may be taken up in olive oil for injection purposes. Laboratoire Francaise de Chemotherapie and A. Girard, Paris, France. B. P. No. 356, 550, filed October 24, 1930.

Cosmetics

Mineral oils are gelatinized to produce bases for toilet preparations by adding 6 to 9% of soap and heating in excess of 350° F. but not above 500° F. Oil may first be heated to about 250° F. in order to remove water. A thinner product may be obtained by melting up solidified oil with more oil. In an example, 1½ pounds of soft soap made from castor, rapeseed, or cottonseed oil is stirred into 20 pounds of axle oil preliminarily heated to 212° to 250° F. and raised to 450° F. until frothing ceases. On cooling a stiff jelly results. W. W. Triggs, London, England. B. P 351,041.

Manufacture of Antiseptic Tobacco

Tobacco is sprayed with mixture of menthol, eucalyptus oil, pini pumilio, cinnamon ver. oil and spirit and then stored for about 14 days in airtight containers. W. T. Armitage and W. Bell B. P. No. 357,517, filed May 19, 1930.

Hydrogenation of Aromatic Compounds

Eugenol, isoeugenol, and corresponding ortho compounds are treated with hydrogen in presence of copper, used as catalyst, at 250° to 270° C, or of nickel at 150° to 170° C. Result is that only the side chain double linking is reduced. 4-Normalprophlguaiacol(melting point 18° to 19°C.) and 6-isomeride (melting point 24° C.) are prepared in pure state by process. Boots Pure Drug Co. Ltd. and J. Marshall. B. P. No. 352,663, filed May 28, 1930.

Medicinal Compounds Allied to Adrenalin

Patent is concerned with manufacture of alpha-phenyl-2-aminoalcohols which are hydroxylated in phenyl nucleus. A hydroxylated aryl ketone is oximinated, and first oximino group and then CO group is reduced. Para-hydroxypropionphenone gives an oximino compound (melting point 147° C.) from which beta-amino-alpha para-hydroxyphenylpropyl alcohol (hydrochloride melting point 147° C.) is obtained. Oximino-meta-hydroxypropionphenone (melting point 130° C.) yields corresponding meta-hydroxy compound (hydrochloride melting point 180° C.) and oximino-3:4-dihydroxypropiophenone (decomposing at 212° C.) is reduced to 3:4-dibydroxy-aminoalcohol (hydrochloride melting point 178° C.). I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 353,361, filed November 26, 1930.

Retarding Development of Sex

Animal or human fluids, for example blood, lymph, serum, urine, etc., other than substances from hypophysis and corpus luteum, are centrifuged, concentrated, fractionally precipitated by means of ethyl alcohol etc. Then they are dialyzed or otherwise fractionated. Fractionation is followed by physiological tests so as to separate the desired active constituents. S. Loewe. B. P. No. 353,635, filed June 16, 1930.

Antiseptics and Germicides

Mercury or silver salt, such as mercuric iodide, and soluble iodide, potassium iodide, are added to an emulsion prepared from eucalyptus and/or ti-tree oil and an ethyl alcohol solution of a fat (butter fat) and/or fatty acid (oleic acid) saponified by treatment with potassium hydroxide and/or sodium hydroxide. Product is toxic staphylococcus aureus, and can be used for injection into blood. F. H. Faulding & Co. Ltd., assignees of L. R. Scammel. B. P. No. 358,865, filed April 24, 1931.

Manufacture of Camphene

Vapors of pinene hydrochloride between 400° and 500° C. are passed over surface catalyst, and/or metal or metallic salts, preferably over copper catalyst deposited on pumice. Condensate consists of camphene and dilute hydrochloric acid. Schering-Kahlbaum A. G. B. P. No. 355,094, filed October 13, 1930.

Preparing Therapeutic Compound

Aqueous solutions of epinephrine and ferric chloride are heated, preferably at or below 70° C. until reddish-brown coloration is formed. Iron chloride content of final solution may vary from ½ to 3% and epinephrine content from 0.01 to 0.1%. Sharit Chemical Co., assignees of G. S. Shahovskoy. B. P. No. 358,610, filed July 17, 1929.

Therapeutic Bismuth Salts

Neutral bismuth salts soluble in fatty oils are obtained by action of bismuth trioxide or bismuth hydroxide on acids $CHRR^1.COOH$. In this formula R and R^1 are aliphatic or carboxylic radicals, for example phenylbutyric, alpha-phenylhexoic, alpha-ethylbutyric and alpha-cyclohexenylbutyric acids. Bismuth therapeutic products may also be obtained by double decomposition of suitable salts. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 353,539, filed April 30, 1930.

GERMAN PATENTS

Removing Rouge

New preparation can be used to remove rouge effectively and rapidly, no matter what fatty substance, such as lanolin, waxes, mineral fats, petrolatum, and the like, may have been used in preparation of rouge. Preparation consists of mixtures or emulsions of soap and alkali bicarbonates, such as sodium bicarbonate. Fats and oils, (cocoanut oil, castor oil, almond oil, sesame oil) can be saponified with alkali and then alkali bicarbonate added. Saponification is effected so that a cream or paste is obtained. Amount of alkali bicarbonate added is 10%. Hermann Boehm, Berlin-Neukoeln, Germany. G. P. No. 492,665, filed October 20, 1926.

Manufacture of Styrol

Methylphenylcarbinol is distilled with aluminum oxide precipitated on pieces of pumice in reaction chamber heated to 290° to 300° C. Distillate from 1,000 parts of carbinol contains about 700 parts of styrol. Methylphenylcarbinol ether may also be used as starting material with thorium oxide as catalyst. Tin oxide may also be used as catalyst with methylphenylcarbinol. Five grams of aluminum shavings are used in place of zinc shavings. I. G. Farbenindustrie A. G., Frankfort-am-Main, Germany. G. P. No. 533,827, filed October 18, 1925.

Bornyl and Isobornyl Esters

Starting point in process is French oil of turpentine. Thus 136 kilograms of turpentine oil are heated in an autoclave provided with reflux condenser, with 26 kilograms of acetic anhydride and 5 kilograms of ordinary boric acid. Temperature is allowed to rise slowly during progress of reaction. Heating is continued until ester content of mixture does not increase. Average ester content of mass is 40 to 45%. Then 120 kilograms of glacial acetic acid are gradually introduced and entire mass is again cooked until point is reached where acetate content does not increase. Acetate content at end of cooking reaches about 60 to 65%. Reaction product is then mixed with water and resulting bornyl acetate and isobornyl acetate is fractionated. Saponification of acetates yields mixture of pure borneol and isoborneol of 197° to 198° C. melting point. Dr. Ludwig Schmidt, Hamburg-Bergedorf, Germany. G. P. No. 532,395, filed July 26, 1928.

Depilatory Preparations

Difficulty with depilatories is that they are difficult to apply; skin is adversely affected; are compounded so that they soil undergarments with stains not easily removed.

New preparation avoiding difficulties, contains in addition to alkaline earth sulphides a saponin-like substance. Preparation is of consistency that it can be easily applied with a brush. It can be easily washed away and does not injure skin. Activity is also longer retained than usual. It can be prepared in paste, liquor and powder or tablet form.

Liquid preparation consists of 26% strontium sulphide, 400% starch or gum tragacanth solution, 33% quillaia bark extract and 1% perfume. Paste preparation contains same proportion of strontium sulphide, 14% chalk, 13% starch, 46% quillaia bark extract and 1% perfume. Powder preparation contains 44% strontium sulphide, 24% chalk, 23% starch, 8% saponin and 1% perfume. Erich Hadank, Tuebingen, Germany. G. P. No. 532,438, filed August 19, 1928.

Alkaloids Volatile in Steam

Process is concerned with recovery of volatile alkaloids, particularly nicotine, by means of steam distillation. Product treated is botanical which contains alkaloids and which is made into a mash and mixed with bases so that alkaloids are set free. Steam pressure used is two atmospheres. Dr. George Knoth, Hamburg, Germany. G. P. No. 516,283, filed November 28, 1928.

Abstracts

Alpha and Beta-Carotene

Carotene isolated from ovaries, grass, spinach or nettles contains none of the alpha-form. In the leaf of germinating seeds and in evergreens beta form predominates. Two forms are not separable by fractional crystallization, but repeated precipitation of beta form with iodine leads to isolation of pure alpha-form. Both forms show autoxidation at about same rate. Ratio of solubilities in benzene at 0° C. is alpha-:beta equal to three to one. Rotation of alpha-carotene in benzene is independent of concentration, but varies with solvent. R. Kuhn and E. Lederer, Zeitschrift fuer physiologische Chemie, volume 200, 246-254.

Alpha-Carotene from Palm Oil

Carotene from palm oil shows greatest optical activity of all natural carotene mixtures. Pure alpha-carotene was separated from mixture by adsorption of beta-carotene on fuller's earth. Zeitschrift fuer physiologische Chemie, volume 200, 255 to 258.

Quinine in Ultra-violet Light

When quinine is dissolved in excess of sulphuric acid and excess is titrated in dark room under vertical beam of ultra-violet light, free quinine is liberated at endpoint. This produces marked decrease in fluorescence. However, change is not sufficiently sharp for use as indication of completion of titration, and hence titration should be carried out in presence of controls. Titration must be effected in beaker in order to avoid fluorescence due to glass itself. J. Grant, Analyst, volume 56, pages 653-4.

Vitamin A From Fish Oils

First step is to remove sterols from unsaponifiable matter of oil which is extracted from liver of Hippoglossus by means of low boiling petroleum. This is done by cooling solution in methyl alcohol at −15° C. and −60° C. Petroleum soluble residue is fractionally absorbed on fibrous alumina, and fraction is obtained as viscous yellow oil which distills, partly undecomposed, in high vacuum, shows a Carr-Price reaction of 10,500 units, and has characteristic reactions of carotene derivative. It resists catalytic reduction and is oxidized by ozone and potassium permanganate yielding geronic acid and acetic acid respectively. Coloration of fraction with concentrated sulphuric acid resembles that with dihydrocrocetin and indicates presence of six double bonds. P. Karrer, R. Morf and K. Schoepp. Hevetica Chimica Acta, volume No. 14, 1036-1040.

Crystalline Vitamin D

When calciferol is heated at 180° C. "pyrocalciferol," an inactive substance of high dextro-rotation, is formed. Calciferol previously described probably contained this substance as main impurity in the 30 to 50% of inactive material present. Calciferol and pyrocalciferol have same empirical formula as ergosterol. Calciferol is not identical with vitamin D_1 but closely resembles D_2 in physical properties. It is a direct product of irradiation of ergosterol. F. A. Askew, H. M. Bruce, R. K. Callow, J. St. L. Philpot and Y. A. Webster, Nature, volume 128, pages 758ff.

Alkaloids of Periero Bark

Finely powdered bark is extracted with ethyl alcohol. Solvent is evaporated and residue mixed with calcium hydroxide and water and dried. Extraction of product with ligroin gives mixture of bases purified by dissolution in acetic acid and precipitation with ammonia. Recrystallization from aqueous methyl alcohol gives geissospermine sesquihydrate. Various other hydrates can be obtained from sesquihydrate. Alkaloid can be crystallized only in form of its hydrates. In dihydrate water is so firmly combined that normal moleuclar weight is observed in freezing benzene or bromoform. Geissospermine contains one OCH_3 and one labile basic NCH_3 group. It cannot be benzoylated or acetylated and does not react with ketonic groups. Two remaining oxygen atoms are therefore present in bridges or in a masked CO group. A. Bertho and G. von Schuckmann, Berichte, volume 64 B, pages 2278-2286.

Color Reaction of Adrenaline

Four to five CC. of neutral solution are acidified with one drop of hydrochloric acid and 2 to 3 CC. of ethyl alcohol, containing 4% of aqueous ammonia are added. In presence of adrenalin in limiting dilution of one in 500,000, a rose peach colored ring is obtained spreading through solution on shaking and changing to yellowish brown. B. Azzolini, Bolletino Chim. Farm., volume 70, 665-7.

Nongreasy Skin Cream

Composition contains 50 parts of white wax, 50 parts of spermaceti, 4 parts of borax, 40 parts of ammonia of 0.9o spec. gr., 510 parts of water, 1 part of wheat starch, 4 parts of gelatin, ½ part of sodium benzoate. Wax, spermaceti, borax, ammonia and water are made into cream. Gelatine, starch and sodium benzoate are dissolved by heating in 100 parts of water. Solution is passed through fine hair sieve and added to finished cream, mixture being made with constant agitation. After starch-gelatine solution has been added, cream must not be heated. Agitation is continued until cream cools and then perfume is added, and final product is again passed through fine hair sieve. This is necessary to impart fine, smooth appearance. Perfume mostly used is rose or lavender. Pharmazeutische Zeitung, through Der Parfuemeur, 1931, page 750.

Saligenin, Salicylic Acid and Salicyaldehyde

Salicylic acid is extracted with measured quantity of standardized supersaturated solution of sodium bicarbonate from mixture of salicylic acid, salicylaldehyde and saligenin in ether solution. Salicylic acid passes into solvent form of sodium salicylate: so does small amount of salicylaldehyde. All of saligenin and major part of salicylaldehyde remain dissolved in ether. Excess of unused sodium bicarbonate is determined by titration with standard solution of mineral acid, whereby salicylaldehyde which has also gone into solution acts as indicator. Salicylic acid originally present in ether solution can be easily calculated from results of titration. Salicylaldehyde is converted into corresponding oxime by means of hydroxylamine and salicylaldoxim is determined quantitatively by conversion with copper salt into light green difficultly soluble precipitate in an acetic acid solution which also contains alkali acetate. Precipitate is filtered, solution contains saligenin, which can be determined gravimetrically by evaporating ether. Richard Berg, Walter Grimmer and Alfred Mueller, Der Chemiker Zeitung, 1931, 975.

Cantharidin from Mylabris Pustulata

Adult beetles are collected by hand, killed with chloroform, dried in sun and preserved whole or in powdered state. In order to obtain free cantharidin, powder is extracted with chloroform. Fats are removed from chloroform by extraction with carbon disulphide. Cantharidin (melting point 218° C.) is then crystallized from ethyl alcohol. Yield is 1.35%. In order to obtain total canthoridin, 100 grams of powder are treated with 150 grams of ethyl acetate and two grams of sulphuric acid. After treatment has lasted for 48 hours, four grams of barium carbonate are added and mixture is extracted for 48 hours with ethyl acetate. After solvent has been removed, residue is macerated several times with cold light petroleum and crude cantharidin is treated with small quantity of hot ethyl alcohol. Yield of pure product is 2.3%. Cantharidin is slowly volatilized. Cantharidinhydrazide, which has formula $C_{10}H_{14}O_3N_2$ (melting at 118° C.) is prepared by treating an alcoholic solution of cantharidin with excess of hydrazine hydrate at 0° C. Then temperature is allowed to rise to that of room. When mass is treated with benzaldehyde in aqueous solution at 100° C. for one-half hour, benzylidene derivative $C_{17}H_{18}O_3N_2$, (melting point

158° C.) is formed. B. H. Iyer and P. C. Guha, Journal Indian Institute of Science, volume 14A, pages 31 to 39.

Mercury in Preparations and Mixtures

First step in analysis is to destroy organic matter by ignition with oxidizing agents. Then residue is heated with water, hydrochloric acid and sodium dihydrogen phosphate. Precipitate is filtered off, washed free from chlorides and dissolved in nitric acid. Potassium permanganate is added and solution is decolorized by means of ferrous sulphate and titrated with tenth normal solution of ammonium sulphocyanide. Many organic mercury preparations do not require destruction of organic matter, but give metallic mercury when sodium dihydrogen phosphate is added. Modifications of method for determination of mercury in medicinal preparations are given. G. Weissmann, Pharm. Zentral., volume 72, 561-565.

Lemongrass Oil

Study has been made of yields and properties of lemongrass oil produced from Andropogon, which grows in Somali Coast, Africa. Yield of oil is 5.62%. It was found that oil content in upper part of plant was less than in lower part. Following physical constants were found for oil:—spec. gr. at 15° C. 0.901; rotary power 1.00; index of refraction at 20° C. 1.485; solubility in alcohol at 70° C. 1 in 3. Citral 79%. Ugo Fabris. Rivista Italiana delle Essenze e Profumi 1931.

Santonin in Tablets

Method for determination of santonin in presence of chocolate is described. Various proposed methods are examined and shortcomings indicated. New method is as follows: Tablets are weighed and dried at 105° C. They are pulverized and extracted with ether for 5 hours. After distillation of ether, paraffin is added and mixture again extracted with alcohol at 80° C. Then mass is filtered and agitated with petroleum ether. These extractions are repeated several times. Finally alcoholic liquor is heated to boiling temperature to remove petroleum ether. Solution is neutralized at ordinary temperature with a deci-normal solution of sodium carbonate. Indicator in titration is phenolphthalein. Then alkaline liquor is titrated with deci-normal hydrochloric acid. Each CC. of deci-normal soda used corresponds to 24.6 milligrams of santonin. Journal de Pharmacie de Belgique, 1931.

Thiosinamine Solution

Thiosinamine is used for softening cicatrisive tissue. It is slightly soluble in water, but solubility is increased by presence of antipyrine. Formula specifies 1 part of thiosinamine, 12½ parts of antipyrine and 100 parts of distilled water. Antipyrine is pulverized and ground in combination with thiosinamine at 30° C. Mixture rapidly softens and then gives clear liquid which can be mixed with water. C. Pees Union Pharmaceutique, 1931, page 163.

Pomades for Hemorrhoides

A number of formulae are given. For example, one calls for 5 parts each of bismuth oxyiodate, tannic acid and balsam peru, 0.35 part of menthol and 25 parts of witch hazel extract and 100 parts of anhydrous lanolin. Another specifies 2 parts of lenigallol, 2 parts of salicylic acid, 3 to 5 parts of orthoform, 5 parts of balsam peru and 50 parts of petrolatum. Another uses 5 parts of ethyl aminobenzoate, 5 parts of bismuth subgallate, 5 parts of zinc oxide, ½ part of menthol and 84.5 parts of lanolin. Apotheker Zeitung 1931, No. 63.

Silver Camphocarbonate

This product is obtained by double decomposition of aqueous solutions of sodium camphocarbonate and silver nitrate. Product crystallizes in elongated prisms. It retains with great tenacity such organic solvents as chloroform, benzine and carbon disulphide. Nevertheless, all solvent can be removed when distillation is carried out under vacuum. Salt exists in two states; one stable which is obtained by crystallization from benzine and several other organic solvents, second unstable state which occurs when crystallized from water or chloroform. When subjected to action of organic solvents, particularly chloroform, and at best in presence of hydrogen, product is converted into decomposed form and colloidal silver is partially formed in form of an organosol which is easily soluble in various organic solvents. M. Picon. Journal de Pharmacie et de Chimie, 1931, 274.

Determination of Formaldehyde

Process was devised for determination of formaldehyde in pharmaceuticals. Author was also concerned with process for making up liquor formaldehydi saponatus. Influence of presence of ethyl alcohol, acetaldehyde and acetone on results obtained by five selected methods of analysis is recorded. Application of results to analysis of above preparation showed formaldehyde content 3% too low. Loss of formaldehyde is found to occur by action of potassium hydroxide during preparation and modified method of making up is suggested. J. Buechi, Pharmazeutische Zeitung, volume 76, page 1063.

Morphine in Opium

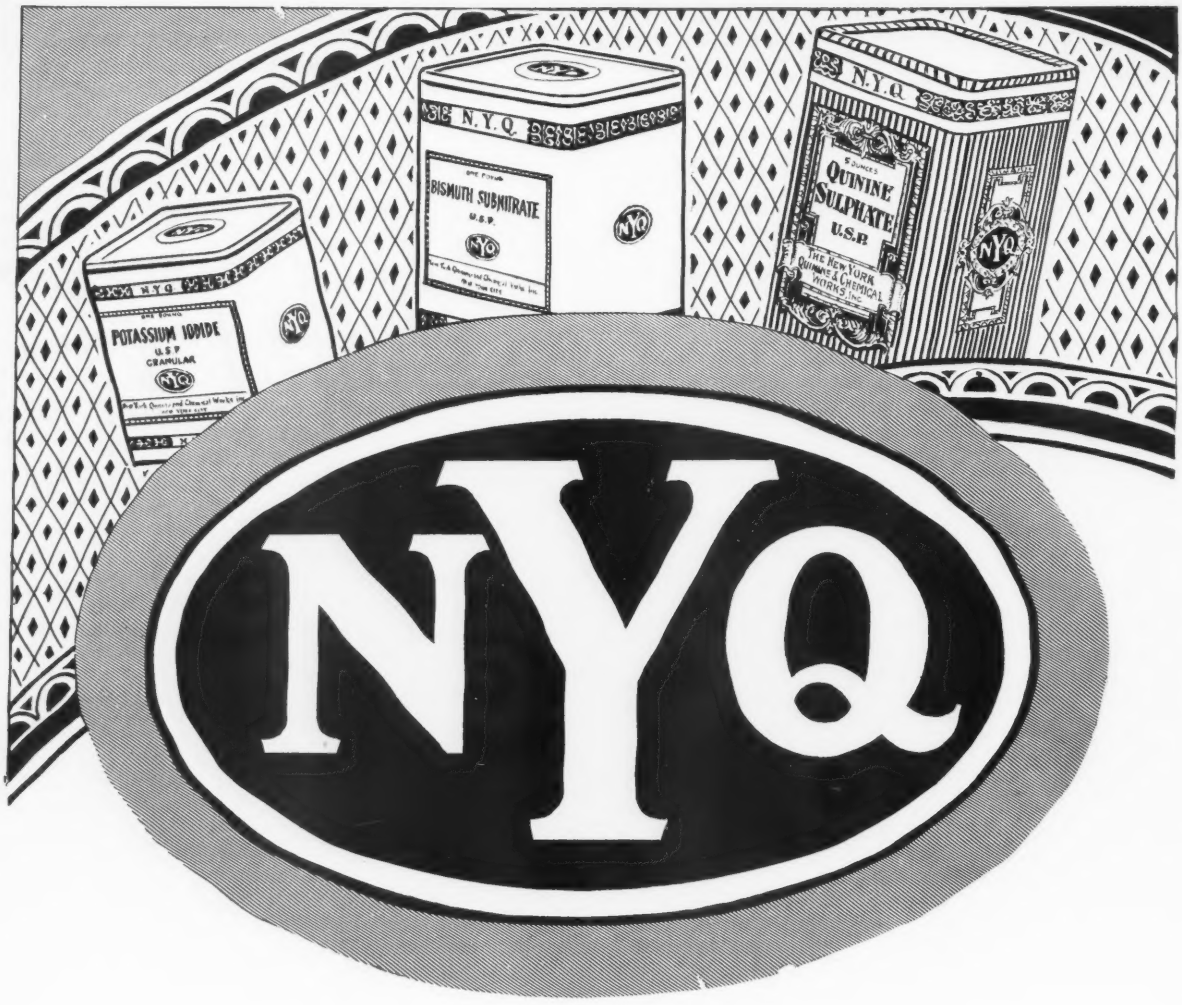
Brown coloration observed during extraction and which persists in the separated morphine and renders titration difficult, is attributed to atmospheric oxidation of an unstable alkaloid generally present. Addition of manganous chloride during extraction simplifies manipulation. Ethereal solution is titrated with sodium hydroxide, using phenolphthalein. If methyl red is used, results are uniformly higher, probably due to presence of calcium meconate. N. Rusting, Pharm. Weekblad, volume 68, pages 767-774.

Decomposition of Novocaine Solutions

The investigator was concerned with decomposition of novocaine solutions during sterilizing and storage. A solution of novocaine, 2% in 0.001 normal solution of hydrochloric acid, undergoes no appreciable decomposition, either after 30 minutes steam sterilization at 100° C. or when it is autoclaved at 120° C. for twenty minutes. Tests were carried out under similar conditions on aqueous solutions of novocaine, containing 1, 2 and 5% of the drug. It was found that these solutions decomposed, and in presence of a phosphate buffer, at pH equal to 5.5 and 6.5, respective amounts of decomposition were 6%, 8% and 19%. A series of commercial solutions, which were from one to five years old, showed good agreement between the found and the declared novocaine contents. In most samples about 2% decomposition had taken place. The determination of the character of the decomposition products led to some interesting results. Determination was effected with sodium bicarbonate and extraction with propyl alcohol-chloroform mixture, in proportion of 1 to 3. This mixture extracted the novocaine and diethylaminoethanol. This extract was shaken with a tenth normal solution of hydrochloric acid and excess acid was titrated with tenth normal sodium hydroxide, while methyl red and methyl blue were used as indicators. Hydrochloric acid absorbed was equivalent to the novocaine originally present. The residual sodium bicarbonate liquor, after adjustment of pH to 3.3 to 3.5, was extracted with same solvent and extracted para-aminobenzoic acid, after removal of solvent, was titrated with tenth normal sodium hydroxide. Difference between two titrations gave actual amounts of novocaine present. J. Abildgaard, Dansk Tidsskr. Farm., volume 5, pages 129 to 142.

Powder Tablets

An example of a formula for preparation of powder tablets calls for 90 parts of talc, 80 parts of kaolin, 15 parts of magnesium carbonate, 15 parts of zinc white. Two hundred twenty parts of this mixture are mixed with 60 parts of gypsum and 280 parts of water, as well as with addition of perfume and color. Apotheker Zeitung, through Der Parfuemeur, 1931, 800.



Acetanilid	Cinchonidine	Quinidine
Bismuth Subnitrate	Morphine Sulphate	Thymol
Bismuth Subcarbonate	Ethyl Morphine	Salicylates
Cinchonine	Iodoform	Strychnine
Cinchona Alkaloids	Glycerophosphates	Bromide of Soda
Cinchophen	Opium	Bromide of Potash
Codeine Sulphate	Potassium Iodide	Bromide of Ammonia
Codeine Phosphate	Quinine Sulphate	Silver Salts

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The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Chemicals

Acetanilid, USP, 200 lb bbls..lb	.24	.25
Acetone, pure 350 lb drs wks..	.12	.14
Acetphenetidin, 225 lb bbls..lb.	1.25	1.30
ACID, Acetylsalicylic, 225 lb ....bbls.	.75	.80
Agaric, 1 oz vials.....oz	...	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls.lb.	.60	.61
Boric, 300 lb bbls.....lb.	.09½	.10
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans.....lb.	3.25	3.50
Citric, USP, crys 230 lb bbl .....lb.	...	.33½
USP, crys imp. 112 lb keg .....lb.	.35	.37
USP, powd 200 lb bbl...lb.	...	.34
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.70
Hydrobromic, USP, 40% 155 lb. cbys.....lb.	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis.....lb.	...	.85
Lactic, USP, VIII 100 lb cbys lb.....	.53	.59
USP, X 100 lb cbys.....lb.	.57	.59
Phenylcinchonic.....lb.	...	3.25
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40
Resublimed, 5 lb cans...lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.08½	.09½
Triple pressed, bags.....lb.	.10½	.12½
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93
Powd 200 lb bbls.....lb.	.80	.85
Tartaric, USP, 300 lb bbls.lb	.25½	.26½
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00
Amorphous, 1 oz vials....oz.	...	20.00
Adeps Lanae, hyd 350 lb bbls lb.	13	.15
Anhydrous, 350 lb bbls....lb.	14	.16
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb.	1.20	1.35
F. O. B. Works.....		
Ethyl, USP, 190 pf 50 gal bbls.....gal.	..	2.563
Grain U. S. P. bbls...gal.	...	2.613
Pure tax free drums...gal.		
Ethyl.....	..	.473
Grain.....	..	.523
Denatured, (drums included) add 5c for bbls		
No. 1 spec.....gal.	.335	.415
No. 5 comp.....gal.	.345	.425
23 a, spec.....gal.	.37	.40
39 b, spec.....gal.	.395	.515
40 m, spec .....gal.	.34	.40
Isopropyl refd 98-99% drs. incl.....gal.	.55	.60
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	1.15	1.18
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.00	4.10
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.35	.36
Carb, USP, lump 100 lb kegs .....lb.	...	.13½
USP, powd 100 lb kegs..lb.	...	.14½
Citrate, 100 lb kegs.....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	5.20
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot...lb.	...	7.10
Antipyrine, USP, 100 lb cans.lb.	2.00	2.50
Apomorphine Hydrochloride, ½ oz. vials.....oz.	22.60	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	5.25	5.35
Aspidospermine Amorphous.oz.	...	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barbital, 1 lb. bot.....lb.	3.50	3.85
Barium Iodide, 5 lb box.....lb.	...	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, metal 100 lb cases .....lb.	...	.95
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.25
Betanaphtholate, 5 lb box.lb.	...	2.90
Citrate, USP, 5 lb cans....lb.	...	2.60
Chloride.....lb.	...	2.55
Hydroxide.....lb.	...	2.90
Nitrate, 25 lb jars.....lb	...	.95
Oxide anhydrous.....lb.	...	3.25
Oxychloride, 25 lb boxes...lb.	...	2.60
Salicylate, 25 lb boxes.....lb.	...	1.55
Subcarbonate, USP, 25 lb boxes.....lb.	1.35	1.40
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.30	2.37
Subgallate, USP, 25 lb boxes .....lb.	1.45	1.50
Subiodide, 5 lb lots.....lb.	...	4.10
Subnitrate, USP, 25 lb jar.lb.	1.20	1.25
Subsalicylate, USP, 25 lb boxes.....lb.	2.25	2.30
Tannate.....lb.	...	2.30
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium Iodide, 10 lb bot...lb.	...	4.55
CAFFEINE Alk, USP, 1.....		
100 lb kegs.....lb.	2.45	2.50
Citrated, 50 lb cans.....lb	2.20	2.45
Hydrobromide, 1 lb bot...lb.	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.00
Carb, USP, 175 lb bbls....lb.	.05	.06
Gluconate, Gran 125 lb..... bbls.....lb	.30	.35
Powd.....lb	.32	.37
Glycerophos, 250 lb bbls...lb.	...	1.05
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	4.85
Lactate, USP, 500 lb bbls lb.	.45	.50
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb	...	1.00
Insol, powd tins.....lb.	...	.50
Phosphate & Sulfate Tooth Paste grade, Works..lbs.	.03	.06
Sulfide, USP, 100 lb drs...lb.	.21½	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.49	.50
Refined powd.....lb.	.49	.50
½ oz tab, 100 lb cases....lb.	.62	.63
Liniment, bbls.....gal.	2.10	2.20
Monobrom, 100 lb cases...lb.	1.60	1.65
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb bbls.....lb.	.06	.07
Chloral Hydrate, USP, 25 lb jars.....lb.	.75	.77
100 lb drums.....lb.	.70	.75
Cholesterin.....lb.	10.25	11.00
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chlorophyll, 1 lb. bot.....lb.	2.12	2.30
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins.....lb.	3.75	4.10
Cinchonine Alk, 100 oz tins .oz.	...	.34
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.23
Cinchonidin Sulfate, 100 oz tins .....oz.	.32	.35
Cincophen, U.S.P. kegs....lb.	...	2.75
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07
Hydrochloride, USP, ...oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	10.52
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	9.52
Nitrate, oz vl 10 oz lots....oz.	...	9.80
Phosp. oz vl, 10 oz lots....oz.	...	7.92
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots...oz.	...	8.42
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.19½	.20
Imp. powd. 224 lb bbls....lb.	.19½	.20½
Creosote, USP, 42 lb cbys...lb.	.45	.47
Carbonate, 150 lb.....lb.	1.50	1.60
Cresol, USP, 400 lb drums...lb.	...	.18
500 lb drums.....lb.	.12	.15
DIGITALIN Pure, 1 oz vial..oz	15.00	15.50
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	25.00	26.00
15 grain vials.....oz.	2.50	2.70
Ephedrine, alk. 25 oz. tins,..oz.	2.90	3.45
Hydrochloride, 25 oz. tins, oz.	2.25	2.70
Sulfate, 25 oz. tins.....oz.	2.25	2.70
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50
Imp. 100 lb bbls.....100 lb.	2.30	2.35
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
ETHER, USP, 55 lb drums..lb.	...	.11
Anaesthesia, 55 lb drums..lb.	.21	.23
Nitrous, 1 lb bot.....lb.	...	.80
Ethyl Chloride, 200 lb bot...lb.	.22	.24
Ethyl Iodide, 5 lb bot.....lb.	...	6.25
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.07	.07¼
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES		
Duodenal Substance, 1 lb lots	...	4.75
Liver Substance (Hepatic) 1 lb lots.....	...	4.25
Orchic Substance (Testicular)	...	3.75
Ovarian Substance, whole, 1 lb lots.....	...	16.50
Ovarian Residue, 1 lb lots....	...	12.00
Pituitary Substance, whole 1 lb lots.....	...	34.50
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	23.50
Thyroid, U. S. P., 1 lb lots...	...	3.75
Oxgall Powder, 1 lb lots.....	...	1.25
GLYCERIN, CP, 550 lb drums .....lb.	...	.11½
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb cbys.....lb	1.60	1.70
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	13.00
Carbonate, 5 lb boxes.....lb.	1.70	2.50
Halazone, 5 lb bot.....lb.	2.75	2.85
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP. .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.	22.50	23.00
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	...	40.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	.03½	.04½
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.		35.00
5 oz, 1 oz vials.....oz.	13.07	13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07
Amorphous, 1 oz vial...oz.	...	75.07

Acetanilid
Hyoscyamine Alk.

Hydrobromide, USP, 1 oz vial		
oz.	...	25.00
Sulfate, 1 oz vial oz.	...	25.07
Hypoquinone, 100 lb kegs lb.	...	1.10
ICHTHYOL, tins lb.	4.00	4.25
Iodide Arsenous, 5 lb bot lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot qt.	...	.26
Iodine, crude, 200 lb kegs lb.	...	2.98
Resublimed, 25 lb jars lb.	...	3.75
Tincture bbls gal.	...	3.40
Iodoform, powd 10 lb bot lb.	...	5.50
Iron & Ammonium Citrate, USP, 50 lb cans lb.	.65	.66
Chloride, USP, lump 400 lb bbls lb.	.06	.08
Citrate, USP, VIII 25 lb can lb.	.94	.99
Hypophosphite, 5 lb cans lb.	1.55	1.65
Iodide, 1 lb bottles	...	4.28
Phosphate, USP, 50 lb cans lb.	...	.69
& Potas Oxalate, 250 lb bbl lb.	...	.45
Pyrophosphate, USP, 50 lb lb.	.74	.80
& Sod Oxalate, 50 lb cans lb.	...	.40½
Sulfate, USP, crys bbls lb.	.04	.04½
Ferrous dried bbls lb.	...	.08
Valerate, tins lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins lb.	...	4.00
Powdered, tins lb.	...	4.65
Lead Acetate, USP, 100 lb kegs lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot lb.	3.20	3.40
Lecithin, 5 oz jars oz.	1.00	1.30
Licorice Ext Mass, cases lb.	.19	.20
Compound powder, bbls lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls lb.	1.25	1.35
Citrate, USP, 100 lb kegs lb.	...	1.40
Iodide, 5 lb bottles lb.	...	5.65
Lobeline Sulfate, ¼ oz vial oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls lb.	.08	.09
English, oz blocks oz.	.16	.18
Glycerophosphate, 5 lb tins lb	3.20	3.25
Hypophosphite, 5 lb cans lb.	1.15	1.20
Salicylate, 100 lb kegs lb	...	1.10
Stearate, bbls lb.	.23	.25
Manganese Glycerophosphate, 5 lb tins lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans lb.	1.35	1.40
Iodide, 1 lb bottles lb.	6.40	6.65
MENTHOL, USP, 60 lb cases lb.	3.25	3.45
Synthetic, cases lb.	2.75	3.00
Mercury Metal, 75 lb flasks fl.	66.00	67.00
Bichloride, crys 25 lb box lb.	...	1.08
Gran powd, 100 lb kegs lb.	...	.93
Bisulfate, 25 lb boxes lb.	...	1.48
Blue Mass, 25 lb boxes lb.	...	.84
Powd, 25 lb boxes lb.	...	.85
Blue Ointment, USP, 50%, 25 lb cans lb.	...	.90
Mild 30%, 25 lb cans lb.	...	.69
33 1/3% mercury lb.	...	.94
Calomel, 50 lb boxes lb.	...	1.51
English lb.	2.65	2.75
Iodide, green, 25 lb jars lb.	...	4.53
Red, USP, 25 lb jars lb.	...	4.63
Yellow, USP, VIII, 25 lb jars lb.	...	4.53
Red precip Powd, USP, 25 lb boxes lb.	...	1.04
White precip, Powd., USP, 25 lb. boxes lb.	...	1.50
Salicylate, 25 lb bot lb.	...	2.32
With chalk, USP, 25 lb boxes lb.	...	.90
Methanol, Pure 1c-1 drs gal	...	.44
Methyl Salicylate, USP, 50 lb cans lb.	.40	.42
Methylene Blue, USP, med 5 lb cans lb	2.00	2.05
Milk powd, 150 lb bbls lb.	.09	.12
MORPHINE Alk, 5 oz tin oz.	10.90	10.95
Acetate, 5 oz tins oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots oz.	...	10.85
Sulfate, 5 oz tins, 10 oz lots oz.	7.85	8.00
Naphthalene Flake, 175 lb bbls wks lb.	.04½	.05
Balls, 250 lb bbls wks lb.	.05½	.06
Oxgall, Purified, 5 lb bot lb.	1.75	2.50
USP, 5 lb bot lb.	2.00	2.50
Oxyquinoline Sulfate, tins lb.	8.50	9.25
Pancreatin, USP, 100 lb lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118 -120 deg MP lb.	.08	.09
128-132 deg MP lb.	.07½	.07¾
Para-Aldehyde, USP, 100 lb carboys lb.	.48	.50
Pepsin, USP, 100 lbs. 1:3000 lb.	...	2.25
100 lbs. 1:6000 lb.	...	4.00
100 lbs. 1:10000 lb.	...	6.50
Peptone, powd, 5 lb bot lb.	...	1.50
PHENOBARBITAL, U. S. P., 1 lb. bot lb.	8.50	9.00
Phenolphthalein, U. S. P. 100 lb drums lb.	.72	.74
5 lb cans 100 lb lots lb.	.80	.85
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots oz.	...	3.25
Nitrate, 25 oz lots oz.	...	3.25
Single ounce oz.	...	3.50
Alkaloid, 15 gr vials vl.	...	.75
Piperadine, 25 oz bottles lb.	...	8.00
Popodhyllin 5 lb bottles lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs lb.	.29	.30
Bicarb, USP, crys 320 lb bbls lb.	.09½	.10
Bromide, USP, crys 100 lb cs lb.	.31	.32
Citrate, USP, 50 lb bbl lb.	.42½	.43
Guaiacol Sulfonate lb.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans lb.	.75	.80
Iodide, USP, 50 lb cases lb.	...	2.90
Lactophosphate, 4 ox bot lb.	...	.90
Permangan, USP, crys, 100 lb drs wks lb.	.15	.15½
Phosphate dibasic pure, kegs lb.	...	.49
Salicylate, 25 lb cans lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins lb.	...	.65
Pyrogallol, USP, see Acid Pyrogallic	...	...
Quinidine Alk, 100 oz tins oz.	.75	.80
Sulfate, 100 oz tins oz.	...	.50
QUININE SULFATE, USP, 100 oz tins oz.	...	.40
1 oz tins, 100 oz lots oz.	...	.50
Acetate oz.	...	.74
Arsenate oz.	...	.76
Benzoate oz.	...	.74
Bisulfate, USP oz.	...	.40
Citrate oz.	...	.50
Dihydrobromide oz.	...	.54
Dihydrochloride, USP oz.	...	.54
Ethyl Carbonate, 16 oz tins oz.	...	.54
Ferrocyanide oz.	...	.74
Formate oz.	...	.72
Glycerophosphate oz.	...	.92
Hydrobromide, USP oz.	...	.50
Hydrochlorosulfate oz.	...	.54
Hypophosphite oz.	...	.70
Lactate oz.	...	.66
Phenolsulfonate oz.	...	.78
Phosphate oz.	...	.62
Salicylate, USP oz.	...	.52
Tannate, USP oz.	...	.40
Tartrate oz.	...	.74
Valerate oz.	...	.78
Urea Hydrochloride, USP oz.	...	.54
Rennet, N. F. 5 lb 1:25,000 lb.	2.95	3.50
Resorcinol, USP, 25 lb cans lb.	1.57	1.65
Rochelle Salt, USP, 225 lb bbl lb.	.16	.16½
Rock Sugar, 5 lb boxes lb.	...	.15
Saccharin, USP, 10 lb cans lb.	1.70	1.80
USP, Soluble, 10 lb cans lb.	1.75	1.85
Salicin, USP lb.	...	12.50
SALOL, USP, 100 lb drums lb.	...	.90
Saltpetre, powd, bbls wks lb.	.06½	.08½
Santonin, USP, bulk lb.	100.00	107.00
Saponin, refined lb.	1.30	1.50
Seidlitz Mixture, 250 lb bb lb.	.13	.13½
Silver Metal, American oz.	...	.29½
Iodide, 16 oz lots oz.	...	.69
Nitrate, 100 oz bottles oz.	.23½	.25½
Nucleinate, bulk oz.	...	.37
Proteinate oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls lb.	.44	.48
Bromide, USP, 100 lb kegs lb.	.31	.32
Cacodylate, USP, 25 lb bot lb.	4.75	5.90
Citrate, USP, X 50 lb kegs lb.	.34½	.36
USP VIII, 50 lb kegs lb.	.28½	.30
Glycerophosphate, N F, crys 25 lb cans lb.	1.27	1.33
Powder, 25 lb tins lb.	1.32	1.38
Soln, USP, 25 lb tins lb.	1.05	1.15
Hypophosphite, USP, 25 lb cans lb.	.60	.65
Iodide, USP, 25 lb jars lb.	...	3.50
Phosphate (Mono-Sodium), 100 lb kegs lb.	.28	.29
Di-Sodium USP, granular, 275 lb bbls lb	.07½	.08
Pyrophosphate, 100 lb kegs lb.	...	.29
Salicylate, 100 lb kegs lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs lb.	...	.25
Sulfocyanate, CP crys, jars included lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk oz.	.65	.70
Single oz vial oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs lb.	.46	.47
Carb, 100 lb kegs wks lb.	...	.20
Iodide, USP, 25 lb jars lb.	...	4.00
Lactate, kegs lb.	.90	1.10
Nitrate, 600 lb bbls NY lb.	.08	.08½
Imp. bbls NY lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.	...	1.10
Strophanthin, USP, 1 oz vial oz.	19.00	19.00
Crystals lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins oz.	...	.55
Powdered oz.	...	.45
Acetate oz.	...	.65
Arsenate, 25 oz cans oz.	...	.65
Glycerophosphite, USP oz.	...	.65
Hydrobromide oz.	...	.65
Hydrochloride oz.	...	.65
Hypophosphite oz.	...	.75
Nitrate, USP oz.	.55	.72
Phosphate oz.	...	.65
Sulfate, USP, powd oz.	...	.37
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes lb.	3.85	4.05
Sulonmethane, USP, 10 lb box lb.	2.65	3.85
Sulfur flwrs, washed, USP, 125 lb bbl lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55
TARTAR EMETIC, USP, 300 lb bbls lb.	.29	.31
Terebene, tins lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs lb.	.33	.35
Theobromine Alk, 5 lb cans lb.	1.90	2.25
Sod. Salicylate, 1 lb bot lb.	...	2.10
Sod. Benzoate, 1 oz vials oz.	...	1.00
Thymol, USP, 25 lb tins lb.	1.35	1.50
Iodide kegs lb.	...	5.00
Veratrine Alkaloid oz.	...	2.25
Sulfate, 1 oz vials oz.	...	2.25
Witch Hazel Ext., 50 gal bbl gal.	.60	.80
Zinc Carb, USP, 100 lb keg lb.	.28	.31
Chloride, USP, 25 jars ex lb.	.24	.29
Iodide, 5 lb bottles lb.	...	5.22
Oxide, USP, 100 lb bbls lb.	.13	.14
Stearate, USP, 50 lb bbl lb.	.18	.20
Sulfate, USP, 100 lb bbl lb.	.08	.09
Sulfocarbolate, 100 lb kegs lb.	.23	.26

Miscellaneous

Castor Oil, odorless, bbls lb.	...	.12½
Chalk drop, 175 lb. bbls lb.	...	.03½
Precip. light, 250 lb. cask lb.	...	.04½
Heavy 540 lb. casks lb.	...	.02½
Bulk ton	...	5.00
English light, bags lb.	...	.04½
English light, casks lb	.05½	...
Cocoa Butter, fingers		
12 lb. box lb.	.24	.26
Cod Liver Oil Nor. 30 gal. bbls	23.00	25.00
Newfoundland bbl.	...	31.00
Collodion U. S. P. 30 lb. dr lb.	...	.23
Colors certified; 1 lb. cans, 5 lb cans		
Amaranth No. 107 lb.	2.50	2.60
Brilliant Blue F.C.F. lb.	12.75	13.00
Erythrosine No. 517 lb.	16.50	17.00
Orange 1nd. 85 lb.	2.50	2.60
Ponceau 3R No. 56 lb.	4.75	5.00
Tartrazine No. 94 lb.	2.50	2.60
Corn Syrup 42° 50 gal. bbl. 100 lb.	3.91	4.16
Gelatin, USP, Silver 100 lb. cases lb.	.55	.60
Pure Food, 50 lb. bbl lb.	.53	.55
Glucose, (grape sugar) dry 70° bags c-1 NY 100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases gross	...	3.75
Imported, 5 gr. cs gross	...	3.50
Kaolin, Bags lb.	.06	.08
Colloidal Grade 200 lb. tin lined wooden drums lb.	.15	.29
Mineral Oil White, 50 gal. bbls. 80-85 vis gal.	.45	.50
85-90 vis gal.	.65	.70
125-130 vis gal.	.75	.85
290 vis gal.	.80	.90
Russian 110-115 vis gal.	.62	.67
145-155 vis gal.	.70	.75
320-330 vis gal.	.80	.90
Olive Oil, Edible bbls gal.	1.45	1.55
Paraffin Wax, fully refined, slabs 125 @ 127 A.M.P. bags lb	...	.03
130 @ 132 A.M.P. bags lb.	...	.04½
135 @ 137 A.M.P. bags lb.	...	.05
Petrolatum, Lily White, USP, 400 lb. bbl lb.	.08	.08½
Snow White USP, 400 lb. bbls lb.	.09	.11
Rice Starch, 140 lb bags lb.	.09	.10
Soap Castile, bars 40 lb. Case Cs.	...	12.75
Powd, USP 250 lb. bbls lb.	.26	.28
Green, USP, 450 lb. bbls lb.	.07½	.07½
Neutral powd 200 lb bbls lb.	.18	.20
Talc, Italian, 220 lb bags ton.	60.00	80.00
French 220 lb bags ton.	40.00	45.00
Waxes, See Drugs & Spices		

Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot	lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot	lb.	...	40.00
C 7, 1 lb bot	lb.	4.50	5.50
C 9 (Nonyl), 1 lb bot	lb.	...	120.00
C 10 (Decyl), 1 lb bot	lb.	...	38.00
C 14, 1 lb bot	lb.	...	22.00
C 16, 1 lb bot	lb.	...	16.00
AMYL ACETATE, pure, 25 lb cans	lb.	.43	.50
Butyrate, 1 lb bot	lb.	1.25	1.50
Butyrate, 5 lb bot	lb.	...	1.00
Cinnamate, 5 lb bot	lb.	9.50	9.75
Formate, 1 lb bot	lb.	...	1.75
Formate, 5 lb bot	lb.	...	1.60
Phenyl Acetate, 1 lb bot	lb.	4.50	5.00
Salicylate, 100 lb cbys	lb.	.75	.80
Imported	lb.	2.25	2.50
Anethol, 2 lb bot	lb.	1.10	1.35
Anisic Aldehyde, 1 lb bot	lb.	3.10	3.00
Benzaldehyde, USP, 40 lb cbys	lb.	...	...
50 lb cbys	lb.	1.35	1.45
FFC, 40 lb cbys	lb.	1.25	1.35
Benzoic Ether, see Ethyl Benzoate			
Benzophenone, 1 lb bot	lb.	2.25	2.75
Benzyl Acetate, 100 lb cbys	lb.	.65	.85
Alcohol, 5 lb bot	lb.	.85	.95
BENZYL BENZOATE		1.10	1.15
Medicinal, FFC	lb.	...	1.40
Buytrate, CP, 1 lb bot	lb.	9.25	9.50
Benzyl Cinnamate, 1¼ bot	lb.	7.00	7.25
Formate, 1 lb bot	lb.	3.15	3.25
Propionate, 1 lb bot	lb.	2.50	2.65
Succinate, 1 lb bot	lb.	5.25	5.50
Valerate, 5 lb bot	lb.	3.00	3.25
Borneol, 1 lb bot	lb.	1.35	1.85
Bornyl Acetate, 1 lb bot	lb.	1.70	2.80
Bromstyrol, 25 lb cases	lb.	3.75	3.85
Butyl Anthranilate dom, 1 lb bot	lb.	...	...
Carvol, 5 lb bot	lb.	3.00	3.40
Cinnamic Acid, 5 lb cans	lb.	3.25	3.50
Alcohol liquid, 1 lb bot	lb.	2.50	2.60
Crystallizable	lb.	7.00	8.00
Aldehyde	lb.	2.25	2.50
Imported, 1 lb bot	lb.	7.75	8.00
Citral, 25 lb cans	lb.	1.65	3.00
Citronellal, 1 lb bot	lb.	2.00	4.00
Citronelyl Acetate, 1 lb bot	lb.	4.25	4.50
Coumarin, 25 lb cans	lb.	3.50	4.00
DECYL ALCOHOL	lb.	22.00	25.00
Diphenyloxide, 25 lb tins	lb.	1.00	1.15
Diphenyl Methane	lb.	1.75	2.00
Dundecyl Alcohol	lb.	20.00	22.00
Ethyl Acetate, pure, 5 lb bot	lb.	.05½	.06½
Benzoate, 5 lb bot	lb.	1.25	1.50
Ethyl Butyrate, 5 lb bot	lb.	1.80	2.00
Caproate, 1 lb bot	lb.	3.25	3.50
Cinnamate, 1 lb bot	lb.	4.00	4.50
Formate, 5 lb bot	lb.	1.00	1.25
Methyl Paracresol, 1 lb bot	lb.	3.25	3.50
Phenyl Acetate, 5 lb bot	lb.	3.75	4.00
Valerate, 5 lb bot	lb.	...	3.75
Salicylate, 5 lb bot	lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans	lb.	.55	.60
Eugenol, USP, 25 lb cans	lb.	2.50	3.00
Geraniol, 50 lb cases	lb.	1.75	2.35
Geranyl Acetate, 1 lb bot	lb.	2.75	2.80
Butyrate, 1 lb bot	lb.	13.00	13.50
Formate, 1 lb bot	lb.	12.00	12.50
Heliotropin, 100-10 lbs	lb.	1.65	1.75
Imported	lb.	1.95	2.05
Hydroxycitronellal, 1 lb	lb.	4.75	6.75
Indol, CP, 1 oz bot	oz.	2.90	3.00
IONONE, 1 lb bot 100%	lb.	5.00	6.00
Alpha	lb.	4.50	4.70
Beta	lb.	5.70	5.75
Methyl	lb.	5.00	5.25
Iso Borneol	lb.	2.25	2.35
Iso Bornyl Acetate	lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot	lb.	2.75	3.00
Iso-Eugenol, 1 lb bot	lb.	3.50	3.55
Iso-Safrol, 1 lb bot imp	lb.	1.75	1.85
Domestic, 5 lb bot	lb.	3.50	3.75
Linalol from Bois de Rose, 5 lb bot	lb.	1.90	3.90
Linalyl Acetate, 1 lb bot	lb.	2.00	3.00
Benzoate, 1 lb bot	lb.	13.00	14.00
Formate, 5 lb bot	lb.	10.50	12.00
METHYL ACETOPHENONE	lb.	2.00	2.15
Anthranilate, 1 lb bot	lb.	2.15	2.20
Imported	lb.	2.70	2.75
Anthranilic Acid	lb.	8.25	8.50
Benzoate, 5 lb bot imp	lb.	1.25	1.35
Domestic, 5 lb bot	lb.	1.25	1.35
Cinnamate, 1 lb bot	lb.	3.75	4.25
Heptenone, 1 lb bot	lb.	3.50	4.00
Paracresol, 1 lb bot	lb.	4.50	8.00
Phenylacetate, 5 lb bot	lb.	3.75	4.00
Salicylate, USP, 500 lb dr	lb.	...	.40
50 lb cases	lb.	...	.42
Mirbane rect. 1,000 lb drs	lb.	.12	.13
Musk Ambrette 1 lb cans	lb	6.75	7.00
Ketone 1 lb cans	lb	7.55	7.80
Xylene 5 lb cans	lb.	2.25	2.85
Nerolin 1 lb cans	lb.	1.35	1.40
Octyl Alcohol 1 lb bot	lb.	16.00	18.00
Oenanthic Ether lb bot	lb.	1.90	2.00
Oleoresin Aspidium	lb.	...	1.25
USP, bot and tins	lb.	2.45	3.20
Capsicum, USP, bot and tins	lb.	2.50	2.75
Cubeb, USP, bot and tins	lb.	2.25	2.75
Ginger bot and tins	lb.	...	...
Malefern see Aspidum			
Orris, bot & tins	lb.	12.00	15.00
Pepper, black, USP, bot & tin	lb.	...	9.50
Vanilla, bot & tins	lb.	7.00	7.75
Paracresol Methyl Ether	lb.	4.25	4.50
Paracresyl Acetate	lb.	5.50	5.75
Para Cymene Refd 110 gal dr	gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot	lb.	4.50	4.75
Imported 50%	lb.	4.50	4.75
100%	lb.	8.00	8.25
Phenylacetic Acid 1 lb bot	lb.	2.65	2.90
Phenyl Diacetate 1 oz bot	oz.	3.00	3.25
1 lb bot	lb.	8.00	10.00
Imported	lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot	lb.	4.40	4.65
Phenyl Ethyl Acetate	lb.	8.25	8.75
Butyrate 1 lb bot	lb.	15.00	16.00
Formate, 1 lb bot	lb.	19.00	21.00
Propionate, 1 lb bot	lb.	16.00	18.00
Valerate, 1 lb bot	lb.	19.00	20.00
Phenylpropylalcohol, 1 lb bot	lb.	8.50	9.00
Rhodinol, 1 lb bot	lb	6.25	20.00
Saffrol, drums	lb.	.30	.32
60 lb cans	lb.	.32	.34
Skatol, 1 oz bot	lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans	lb.	.85	.90
Imported, 25 lb cans		.85	.90
TERPINEOL, CP, 1000 lb drs	lb.	.27	.29
50 lb cans	lb.	.31	.33
Absolute, 25 lb cans	lb.	.48	.50
Imported, 25 lb cans	lb.	.58	.60
Valerianic Ether see Ethyl Valerate			
Vanillin (Clove Oil), USP	lb.	5.50	5.75
(Guaiacol) USP	lb.	5.00	5.25

Essential Oils

Almond Bitter, USP, 5 lb bot	lb.	2.15	2.25
Bitter, ffPA, 5 lb bot	lb.	2.25	2.40
Sweet, 56 lb cans	lb.	.40	.43
Almond Meal, 25 lb cans	lb.	.20	.21
Amber crude, 25 lb tins	lb.	.15	.17
Rectified, 25 lb tins	lb.	.50	.53
Amber liquid, 400 lb drs	lb.	2.20	2.30
Ambergris, Black, boxes	oz.	14.00	15.00
Gray boxes	oz.	32.00	36.00
Angelica Root, 1 lb bot	lb.	21.00	31.00
Anise Tech, 400 lb drums	lb.	.37	.39
USP, 60 lb cans	lb.	.39	.41
Apricot Kernel, 50 lb cans	lb.	.26	.27
Bay, 25 lb tins N. F. V., 50.55% Phenol	lb.	1.80	1.95
Terpeneless	lb.	4.25	4.45
BERGAMOT, 25 lb coppers	lb.	1.90	2.10
Terpeneless	lb.	0.25	0.25
Artificial, 25 lb cans	lb.	1.25	1.50
Birch, Sweet, Northern, 25 lb tins	lb.	3.00	3.10
Southern, 25 lb tins	lb.	...	1.85
Birch Tar, rect., 5 lb bot	lb.	.50	.55
Crude, 50 lb tins	lb.	.13	.14
Bois de Rose, tins	lb.	.65	.70
Brazillian	lb.	1.25	1.45
Cayenne, tins	lb.	.25	.26
Cade, 25 lb cans	lb.	.55	.60
Cajuput, native, 50 lb tins	lb.	2.75	3.00
Calamus, 5 lb bot	lb.	.20	.21
Camphor Sassa, 1000 lb drs	lb.	.15	.16
White, 400 lb drs	lb.	.17	.18
Cans, 50 lbs			
CANANGA, Native 25 lb tins	lb.	1.45	1.60
Rectified, 25 lb tins	lb.	2.00	2.10
Caraway, USP	lb.	1.45	1.50
Cardamon, NF, 1 lb bot	lb.	16.00	28.00
Cascarilla, USP, 1 lb bot	lb.	65.00	80.00
Cassia,		...	...
Redist, USP, 50 lb cans	lb.	1.00	1.05
Cedar Leaf, 50 lb tins		.75	.85
Cedar Wood, light, 1000 lb drs	lb.	.31	.33
Celery, 1 lb bot	lb.	...	7.50
Chaulmoogra, USP 80 lb cases	lb.	...	1.50
Cinnamon Ceylon, 1 lb bot	lb.	9.00	10.00
Leaf, 5 lb bot	lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs	lb.	.32	.34
50 lb tins	lb.	.34	.36
Java, 400 lb drs	lb.	.50	.52
50 lb tins	lb.	.52	.54
Civet, Abyssin, horns	oz.	2.10	3.00
Cloves, USP, 50 lb cans	lb.	1.00	1.05
6 lb bot	lb.	1.15	1.20
Copaiba	lb.	.45	.50
Coriander, USP, 10 lb bots	lb.	4.25	4.50
Croton USP, 25 lb tins	lb.	3.50	3.90
Cubebs, USP, 5 lb bot	lb.	2.55	2.65
Cumin, 1 lb bot	lb.	7.00	7.50
Dill, 25 lb cans	lb.	3.15	4.65
Erigeron, 20 lb tins	lb.	.95	1.05
EUCALYPTUS Austl, USP, 56 *lb cans, cases*	lb.	.27	.28
500 lb drs	lb.	.25	.26
Fennel, USP, 25 lb tins	lb.	.95	1.10
Geranium African, 25 lb tins	lb.	3.75	4.50
Bourbon, 28 lb tins	lb.	3.50	4.00
Turkish, 28 lb tins	lb.	1.75	1.90
Ginger, 1 lb bot	lb.	4.25	4.40
Gingergrass, 28 lb tins	lb.	2.50	2.70
Grape Fruit	lb.	2.90	3.00
Hemlock, 25 lb tins	lb.	.85	1.00
Juniper Berries, USP, 25 lb tins	lb.	1.35	1.40
Wood, 50 lb tins	lb.	.50	.60
Labdanum, 5 lb bot	lb.	5.50	6.00
LAVENDER, USP, 28 lb tins	lb	1.75	2.00
Spike Spanish, 50 lb cans	lb.	.48	.75
Lemon Ital, 25 lb cans	lb.	1.15	1.40
California 35 lb cbys	lb.	.95	1.00
Lemongrass, native, 50 lb cans	lb.	.51	.53
Limes, expressed, 25 lb tins	lb.	11.25	13.00
Distilled, 25 lb tins	lb.	7.35	8.50
Linaloe Mex., 70 lb cases	lb.	...	1.75
Mace, distilled, 50 lb tins	lb.	1.00	1.05
Mandarin, 25 lb cases	lb.	4.20	4.70
Musk Pods Cabardine, tins	lb.	...	...
Musk Tonquin, tins, Pods	oz.	24.00	26.00
Grains Cabardine, tins	oz.	...	...
Tonquin, tins, Grained	oz.	28.00	34.00
MUSTARD, USP, 1 lb bots	lb.	8.50	9.00
Artif, USP, 5 lb bot	lb.	1.50	1.60
Neroli Bigarade, ½ & ¼ & 1 lb bot	lb.	80.00	110.00
Petale, 1 lb bot	lb.	95.00	105.00
Artificial, 1 lb bot	lb.	5.00	15.00
Nutmeg, USP, 50 lb tins	lb	1.00	1.05
ORANGE BITTER, 25 lb tins	lb	1.75	2.10
Sweet W Ind, 25 lb tins	lb	1.25	1.75
Italian, 25 lb cop	lb	1.70	2.10
Orange American, Cold pressed 25 lb tins	lb.	1.70	1.80
Distilled, 25 lb tins	lb.	.90	1.00
Spanish, 25 lb tins	lb.	...	1.50
Oil Orris, concrete	oz.	4.75	8.00
Origanum, 50 lb cans tech	lb.	.25	.27
Parsley, 1 lb bot	lb.	6.50	6.75
Patchouli, 5 lb bot	lb.	4.00	4.35
Pennyroyal, dom, 25 lb tins	lb.	1.75	1.95
Imported, 25 lb tins	lb.	...	1.05
Pepper Black lb		...	6.00
Peppermint, nat. 60 lb cases	lb.	1.40	1.45
Redis, USP, 60 lb cs	lb.	1.65	1.70
Petit Grain S A., 25 lb tins	lb.	1.00	1.10
French, 1 lb bot	lb.	4.50	4.75
Italian, 25 lb tins	lb.	2.20	2.30
Pimento Leaf, 25 lb tins	lb.	1.35	1.50
Berries, 25 lb tins	lb	3.00	3.10
Pine Needle Siberian, cans	lb.	.58	.63
Pinus, Sylvestris, 25 lb tins	lb.	1.30	2.00
Pumilio, USP, 25 lb tins	lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs	lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs	oz.	7.75	14.00
Rosemary, USP, 27½ lb tins	lb.	...	.47
1000 lb drums	lb.	...	.40
Tech, 25½ lb tins	lb.	...	.34
Rue, 1 lb bot	lb.	2.25	2.50
SANDALWOOD, E Ind, USP, *100 lb case*	lb.	6.50	7.25
W Indian (Amayris), 25 lb tins	lb.	2.85	2.95
Australian, Tins		5.65	5.65
Sassafras, USP, 50 lb cans	lb.	1.05	1.07
Artificial, 1000 lb drs, 60 lb cans	lb.	.27	.29
Safrol, cans	lb.	.36	.38
Sage, Dalmatian, 25 lb cans	lb.	2.15	2.25
Savin, 50 lb tins	lb.	2.00	2.25
Snakeroot, Canada	lb.	8.25	8.50
SPEARMINT, USP, 50 lb tins	lb	1.15	1.25
Spruce, 50 lb tins	lb	.90	.95
Tansy, American, 25 lb tins	lb.	2.15	2.30
Tar, 50 gal bbls		.25	.30
USP, 50 gal bbls		.75	1.50
Thyme, red, NF, 25 lb tins	lb.	.80	.95
White, NF, 25 lb tins	lb.	.90	1.00
Tech, 110 lb drums	lb.	.70	.75
Turpentine, USP, rect cbys	lb.	.27	.30
Vetivert Bourbon, 10 bot	lb.	4.75	5.00
Indian, 1 lb bot	lb.	25.00	38.00
Java, 1 lb bot	lb.	12.00	13.00
Wine, heavy, 1 lb bot	lb.	1.50	1.60
WINTERGREEN Gaultheria, true, 25 lb tin	lb.	8.00	10.00
Southern, 25 lb tins	lb.	3.75	4.00
Synthetic see Methyl salicylate			
Wormseed, Balt, 25 lb tins	lb.	2.15	2.25
Wormwood, dom, 25 lb tins	lb.	3.85	4.10
Ylang Ylang Bourbon, 10 lb tins No. 1	lb.	5.25	5.50
10 lb tins No. 2	lb.	5.20	5.25
Manila, 1 lb bot	lb.	30.00	36.00

Drugs and Spices

Aconite Root, USP, bags	lb.	.13 .14
Agar Agar, No. 1, bales	lb.	.88 .90
Agar Agar No. 2, bales	lb.	.80 .82
Almonds Meal	lb.	.23 .28
Aletris Root, bags	lb.	.19 .20
Alkanet Root, bags	lb	.09 .10
ALOES, Cape, 400 lb cases	lb.	.11 .12
Curacao, 140 lb cases	lb.	.17 .19
Socotrine, Whole, 300 lb cs	lb.	.32 .37
Althea Root, bags	lb.	.19 .21
Cut cases	lb.	.17 .24
Angelica Root, bags	lb.	.12 .13
Angostura Bark, bags	lb	.17 .18
Anise Star case	lb	.17 .18
Spanish, bags	lb	.07 .08
ARABIC GUM, White, No. 1, 220 lb bags	lb.	.16 .17
Seconds, 220 lb bags	lb.	.14 .15
Sorts, Amber, 220 lb bags	lb.	.07 .07½
Powd, USP, 300 lb bbls	lb.	.12 .15
Areca Nuts, 100 lb bbls	lb.	.05 .07
Powd, 100 lb bbls	lb.	.10 .11
Arnica Flowers, bales	lb.	.09½ .10½
Root, bags	lb.	.42 .43
Arrowroot, St. Vincent, powd bbls	lb.	.10 .11
Asafoetida, 250 lb cases	lb.	.17 .18
Powd, 50 lb boxes	lb.	.29 .30
Balm Gilead Buds, bags	lb.	.25 .26
Balmony Herbs, bales	lb.	.12 .14
BALSAM COPAIBA Para, 80 lb cases	lb.	.17 .18
South American, USP, 80 lb cases	lb.	... .24
Peru, 120 lb cases	lb.	1.10 1.15
Tolu, 90 lb cases	lb.	.70 .80
Barberry Bark, of root, bags	lb.	.16 .18
Bayberry Bark, bales	lb.	.08 .09
Wax bbls	lb.	.17 .19
BELLADONNA LEAVES, bale	lb.	.13 .15
Root, bags	lb.	.11 .12
Bees Wax, White, cases	lb.	.38 .42
Yellow refined cases	lb.	.25 .27
Yellow Crude Cases	lb	.17 .18
Benzoin Gum, Siam, boxes	lb.	1.15 1.25
Sumatra, cases	lb.	.24 .26
Berberis Aquafolium Root, bags	lb.	.08 .09
Beth Root, bags	lb.	.09 .10
Black Indian Hemp Root, 100 lb bags	lb.	.11 .12
Blood Root, bags	lb.	.11 .12
Blueflag Root, bags	lb.	.13 .14
Boldo Leaves, bales	lb.	.15 .17
Boneset Herb, bales	lb.	.08 .09
Borage Flowers, bales	lb.	.13 .14
Broomtop Herb Cut, bales	lb.	.07 .08
Bryonia Root, bags	lb.	.09 .10
BUCHU LEAVES Short, 250 lb. bales	lb.	.16 .17
Long bales	lb.	.75 .80
Buckbean Leaves, bales	lb.	.08½ .09
Buckthorn Bark, bags	lb.	.05 .06
Berries, bags	lb.	.29 .34
Burdock Root, bags	lb.	.08 .09
Seed bags	lb.	.30 ...
Burgundy Pitch, 110 stand gross for net	lb.	.08 .09
Imported	lb.	.10 .11
Calabar Beans, bags	lb.	.15 .16
Calamus Root, blchd cases	lb.	.30 .35
Unbleached, bags	lb.	.07 .08
Calendula Petals, imp bales	lb.	.25 .33
Calisaya Bark, bales	lb.	.19 .20
Powdered, bbls	lb.	.25 .26
Canary Seed, South America, bags	lb.	.05 .05½
Dutch, bags	lb.	.05 .06
Candelilla Wax, bags	lb.	.14 .15
Cannella Alba Bark, bales	lb.	.25 .26
Cannabis, U.S.P.	lb	.18 .25
Cantharides, Chinese, cases	lb.	.50 .55
Powdered, boxes	lb.	.65 .68
Russian, cases	lb.	1.10 1.15
Powdered, boxes	lb.	1.25 1.35
Caraway Seed, African, bags	lb.	.04½ .05½
Dutch, 11 lb bags	lb.	.06½ .06½
Cardamon bleached, cases	lb.	1.00 1.05
Decorticated, cases	lb.	.57 .58
Carnauba Wax No. 1, 100 lb. bags	lb	.24 .26
Cascara Amarga, 150 lb bbls	lb.	Nom ...
So called bales	lb.	.50 .75
CASCARA SAGRADA, 1929 bark	lb.	.17 .18
1930 bark	lb.	.16½ .18
1931 bark	lb.	.03 .03½
Cascarilla Bark, quills, bales	lb.	.70 .80
Siftings, bbls	lb.	.05 ...
Cassia Batavia No. 1 bbls	lb.	.08½ .08½
Shortstick, bales	lb.	.07½ .07½
Batavia No. 3, bales	lb.	.06½ .07
China Select Rolls, cases	lb.	.03 .03½
Broken, bales	lb.	.05½ .05¼
Saigon, thin	lb.	.20 .21
Buds, cases	lb.	.20 .22
Fistula, baskets	lb.	.09 .10
Catnip, Herb, bales	lb.	.16 .17
Celery Seed, bales	lb.	.19 .20
Ceresin Wax, White, bags	lb.	.10 .15
Yellow 200 lb. bags	lb.	.09 .12
Imp. 100 lb. bags	lb.	.25 .38
CHAMOMILE FLOWERS Roman, bales	lb.	.32 .35
Hungarian, cases	lb.	.14 .16
Charcoal Willow, powd, bbls	lb.	.06 .06½
Wood, powd, bbls	lb.	.04 .05
Chestnut Bark	lb.	.07 .08
Leaves bales	lb.	.05 .05½
Chicle Gum, lb bbls	lb.	.32 .40
Chiretta, bales	lb.	.14½ .17½
Cinnamon, Ceylon, No. 1, bales	lb.	.15 .16
No. 2 bales	lb.	.12 .12½
No. 3 bales	lb.	.11½ .12
Clover Tops, Red, bags	lb.	.10 .11
Cloves Zanzibar, 135 lb bbl	lb.	.15 .15½
Cochineal, Black	lb.	.69 ...
Silver	lb.	.75 ...
Cohosh Root, Black, bags	lb.	.05 .06
Blue, bags	lb.	.06 .07
Colchicum Root, bags	lb.	.10 .12
Seed, bags	lb.	.60 .65
COLOMBO ROOT, bags	lb.	.05 .06
Colocynth Pulp, bales	lb.	.17 .18
Coltsfoot Leaves, bags	lb.	.06 .07
Comfrey Root, bags	lb.	.10 .11
Condurango Bark, bags	lb.	.09 .10
Coriander Seed, Morocco, bags	lb.	.03½ .04
Bleached, bags	lb.	.05½ .06
Corn Silk, bales	lb.	.05½ .06
Cotton Root Bark, bales	lb.	.06½ .07
Cowhage, 1 oz tins	lb.	1.00 ...
Cramp Bark so called bales	lb.	.05 .06
True, bags	lb.	.26 .28
Cranesbill Root, bags	lb.	.07½ .08
CUBEB BERRIES, XX bags	lb.	.32 .33
Powdered, boxes	lb	.34 .35
Culvers Root, bags	lb.	.11 .12
Cumin Seed, Malta, bags	lb.	.12½ .12¼
Morocco, bags	lb.	.06¾ .07
Cuttlefish, Bone Trieste, Straps	lb.	.19 .22
French, boxes	lb.	.18 .21
Powdered, bbls	lb.	.09 .10
Broken, bales	lb.	.07 ...
Damiana Leaves, bales	lb.	.15 .16
Dandelion Root, Imp. bags	lb.	.11 .12
Deer Tongue Leaves, bales	lb.	.08 .10
Digitalis Leaves, bales	lb.	.10 .11
Dogwood Bark, Jamaica bags	lb.	.08 .09
American bales	lb.	.06½ ...
Doggrass Root, USP, cut bags	lb.	.14½ .15
Dragons Blood Mass, cases	lb.	.90 .95
Reeds, boxes	lb.	1.00 1.05
Echinacea Root, bags	lb.	.16 .17
Elcampane Root, bags	lb.	.05 .06
Elder Flowers, bags	lb.	.20 .23
Elemi Gum, 85 lb cases	lb.	.26 .28
Elm Bark, bundles	lb.	.19 .22
Grinding bags	lb.	.09 .10
Powdered, bbls	lb.	.16 .18
Ephedra Vulgaris, bales	lb.	.05 .06
ERGOT, 150-200 lb bags	lb.	.45 .58
Eucalyptus Leaves, bales	lb.	.05 .06
Euphorbia Pilulifera, Herb, bags	lb	.05 .08
Euphorbium Gum, cases	lb.	.14 .20
Fennel Seed, French, bags	lb.	.07 .07½
German bags	lb.	.08 .10
Foenugreek Seed, 200 lb bags	lb.	.04 .04½
Fish Berries, 100-125 lb bag	lb.	.06 .07½
Flax Seed, Whole 182 lb bbls	lb.	.06½ .07½
Ground, 180 lb bbls	lb.	.07 .09
Fringe Tree Bark or Root bags	lb.	.11 .13
Fumigating Pastiles, boxes	lb.	.28 .33
Galangal Root, bags	lb.	.08 .09
Galbanum Gum, cans	lb.	1.00 1.05
Gamboge Gum, 100 lb cases	lb.	.65 .70
Powdered, cases	lb.	.80 .85
Gelsemium Root, bags	lb.	.07 .08
GENTIAN ROOT, bags	lb.	.07 .08
Ground bbls, boxes	lb.	.10 .11
Powdered, bbls, boxes	lb.	.10 .11
Ginger, African, bags	lb.	.05½ .06
Jamaica Grinding bags	lb.	.08½ .08½
Cochin ABC & Lemon, bags	lb.	.07½ .07½
Ginseng Root, cultivated cs	lb.	8.00 10.00
Wild Southern, cases	lb.	11.00 13.00
Golden Seal Root, bags	lb.	.70 .75
Powdered, boxes	lb.	1.00 1.10
Herb, barrels	lb.	1.05 1.15
Grains of Paradise, bags	lb.	.11 .14
Grindelia Robusta, Herb, bale	lb.	.07 .08
Guaiac Gum, 150 lb cases	lb.	.25 .26
Strained 75 lb cases	lb.	.70 .75
Guarana, tin cases	lb.	.75 1.00
Hellebore Root, Black, bbls	lb.	.05½ .06
White, 250 lb bbls	lb.	.07½ .08½
Powdered	lb.	.11 .13
Helonias Root, bags	lb.	.30 .32
Hemp Seed, bags	lb.	.03¼ .03¾
Henbane Leaves, USP, bales	lb.	.09 .10
HENNA LEAVES, bales	lb.	.07½ .08½
Powdered	lb.	.11 .12
Hops, bales	lb.	.21 .24
Horehound, Herb, bales	lb.	.07 .08
Hydrangea Root, bales	lb.	.07 .08
IPECAC ROOT, Carteagna, bags	lb.	.90 .95
Powdered, 220 lb bbls	lb.	1.00 1.10
Isinglass, American, 130 lb cases	lb.	.95 1.00
Russian (Beluga), boxes	lb.	4.50 ...
Jaborandi Leaves, bales	lb.	.07½ .08
Jalap Root, Whole, 150 lb bag	lb.	.18 .20
USP, Powd, 250 lb bbls	lb.	.23 .26
Japan Wax 224 lb. cases	lb.	.09 .10
JUNIPER BERRIES, 125 lb bags	lb.	.04½ .05
Kamala, boxes	lb.	.40 .45
Karaya Gum, Powdered, bbls	lb.	.16 .17
Kava Kava Root, bags	lb.	.13 .14
Kino Gum, Black, cases	lb.	.50 .55
Kola Nuts, 150 lb bags	lb.	.05½ .06
Lady Slipper Root, bags	lb.	.40 .45
Larkspur Seed, bags	lb.	.28 .33
Laurel Berries, bags	lb.	.08 .09
Leaves, Greek, bags	lb.	.05 .05½
Italian, bales	lb.	.08 .09
Lavender Flowers, Ordinary	lb.	.18 .20
Selected	lb.	.29 .31
Lemon Peel, bags	lb.	.08 .09
LICORICE ROOT, Whole bbls	lb.	.12 .15
Spanish Natural bales	lb.	.05½ .07
Powdered, bbls	lb.	.08 .10
Selected 2 & 5 lb bdls	lb.	.12 .15
Cutting, 125 lb bags	ln.	.06 .06½
Turkish, 150 lb bales	lb.	.05 ...
Linden Flowers with leaves, bales	lb.	.18 .19
Without leaves, bales	lb.	.23 .24
Liverwort Leaves, bales	lb.	.14 .15
Lobelia, Herb, bales	lb.	.09 .10
Seed, bags	lb.	.21 .26
Lovage Root, Imp., bags	lb.	.15 .17
Lupulin N. F., tins	lb.	1.25 1.30
Lycopodium, 88 lb. cases	lb.	.26 .28
MACE SIAUW, No. 1, cases	lb.	.31 .32
Banda No. 1, cases	lb.	.38 .40
Batavia No. 2, cases	lb.	.31 .32
Malva Flowers, Blue, bales	lb.	.70 .80
Black, bales	lb.	.25 .40
Leaves, bales	lb.	.12 .13
Manaca Root, bales	lb.	.22 .23
Manna, Large Flake, cases	lb.	.50 .56
Small Flake, cakes	lb.	.35 .38
Sorts, cases	lb.	.45 .50
Mandrake Root, bags	lb.	.08 .09
Marjoram, Herb		
French, No. 1 bales	lb.	.13 .13½
German, bales	lb.	.14 .14½
Mastic Gum, 120 lb cans	lb.	.40 .45
Matico Leaves, bales	lb.	.20 .23
Mezereon Bark, bags	lb.	.15 .16
Millet Seed, Yellow, bags	lb.	.02¾ .03
Montan Wax, Crude, bags	lb.	.05 .06
Bleached, bags	lb.	.26 .28
Moss, Iceland, bales	lb.	.09 .11
Irish, Bleached, bales	lb.	.10 .12
Mullein Flowers, tins	lb.	.75 .80
Leaves, bales	lb.	.07 .07½
Musk Root, Russian, bags	lb.	.06½ .07½
Myrrh Gum, 200 lb. cases	lb.	.16 .18
Nutgalls, Chinese, bags	lb.	.22 ...
Aleppy, bags	lb.	... Nom.
Powdered, bags	lb.	.18 ...
Nutmegs, 110's cases	lb.	.12 .12½
75's & 80's cases	lb.	.15 .15½
Grinding, bags	lb	.18 .19
NUX-VOMICA Buttons, bag	lb.	.05 .06
Powdered, 200 lb bbls	lb.	.08 .09
Oak Bark, bags	lb.	.06 .06½
Olibanum Gum, 280 lb cases		
Siftings	lb.	.07 .08
Tears, No. 1 Extra	lb.	.23 .24
No. 2	lb.	.16 .18
No. 3	lb	.12 .13
Opium Gum, USP, cases	lb.	12.00 13.00
Granular, cans	lb.	13.00 14.00
Powdered, USP, cans	lb.	13.00 14.00
Orange Flowers, cases	lb.	.25 .30
Peel, Bitter, bags	lb.	.08 .09
Sweet bags,	lb.	.07 .08
ORRIS ROOT, Flor. bid. bags	lb.	.11 .12
Powdered, 200 lb bbls	lb.	.14 .15
Verona, bags	lb.	.09 .09½
Powdered, 200 lb bbls	lb.	.12 .13
Fingers, boxes	lb.	.90 .95
Ozokerite Wax, Brown, Hard	lb.	... ...
Bags	lb.	.24 .25
Green, Hard, bags	lb.	.25 .27
Yellow, Refined, bags	lb.	.33 .34
Papain, Crude, 150 lb cases	lb.	2.15 2.20
Pure, Powdered, 10 lb bot	lb.	2.30 2.35
Paprika, bags	lb.	.20 .20½
Pareira Brava Root, bags	lb.	.13 .14
Passion Flower, bales	lb.	.04½ .05½
Patchouli Leaves, bales	lb.	.15 .16
Pennyroyal, Herb, 100 lb bags	lb.	.08 .09
Leaves, 100 lb bags	lb.	.12 .13

PEPPERMINT LEAVES, Imp bales lb.	.30	.40
Domestic, bales lb.	.24	.28
Pichi Leaves, bags lb	.10	.11
Pimento Select, bags lb.	.05½	.06
Pink Root, True, bags lb.	.32	.34
Pleurisy Root, bags lb.	.15	.16
Poke Berries, bags lb.	.14	.15
Root, 200 lb bales lb.	.06	.06½
Pomegrant Bark of Root, bags lb.	.29	.34
Bark of Fruit, bags lb.	.20	.25
Bark of Tree, bags lb.	.15	.18
POPPY FLOWERS, Red, bags lb.	.45	.50
Prickly Ash Bark lb.	.12	.15
Southern bags lb.	.11	.11½
Northern, bags lb.	.11	.12
Berries, bags lb.	.20	.21
Prince's Pine, bales lb.	.15	.20
Psyllium Seed, Black, bags lb.	.22	.25
Plantago Seed, Blonde, Bags lb.	.08	.10
Pulsatilla, Herb, bags lb.	.10	.11
Pumpkin Seed, bags lb.	.11	.12
Pyrethrum Flowers lb.	.18	.19
Pwd., pure, 200 lb.bbls. lb.	.22	.23
Quassia Chips, bags lb.	.05¾	.06¼
Quebracho, bulk, 125 lb. bbl. lb.	.20	.21
Quince Seed, Spanish bags lb.	1.05	1.30
Persian, bags lb	1.35	1.80
Rape Seed, South American, bags lb.	.05¼	.06
Dutch, bags lb.	.06	.06½
Raspberries, Dried, bbls. lb.	.45	.50
Red Saunders, bags lb.	.08	.09
Rhatany Root, bags lb.	.10	.11
Rhubarb Root, HD, cases lb.	.19	.20
Powdered, bbls. lb	.25	.26
Rosemary Leaves, bales lb.	.05	.05½
Flowers, cases, bales lb.	.28	.32
Rose Petals, pale lb.	.14	.15
Red lb.	.50	.55
Rue, Herb, bales lb.	.18	.20
Sabadilla Seed, bags lb.	.17	.18
Powdered, bbls lb.	.19	.19½
SAFFRON FLOWERS, American, bales lb.	.21	.22
Valencia, 1 lb cans lb.	11.00	13.00
Sage Dalmatian, bales lb.	.05½	.06
Sandarac Gum, 300 lb bbls. lb.	.30	.35
Sarsaparilla Root, Honduras, bales lb.	.60	.65
Mexican, bales lb.	.13	.14
Sassafras Bark, Ordinary, bales	.08	.10
Select, bales lb.	.16	.17
Savory Leaves, bale lb.	.05¾	.06¼
Saw Palmetto Berries, bags lb.	.07½	.08½
Scammony Resin, boxes lb.	1.30	1.35
Root, bags lb.	.07	.08
Senega Root, bags lb.	.31	.33
SENNA ALEX., 150 lb cases lb.	.20	.25
Half leaf 150 lb bales lb.	.10	.12
Sifting, 400 lb bales lb.	.08	.09
Tinnevelly, Bold, 350 lb bales lb.	.10	.12
Medium Leaf lb.	.08	.09
Small Leaf lb.	.06	.08
Pods, 350 lb lb.	.08½	.09½
Powdered, 200 lb lb.	...	.10
Serpentaria Root, bags lb.	.32	.33
Simaruba Bark, bales lb.	.24	.26
Skullcap Leaves, Eastern, bales lb.	.28	.33
Western, bales lb.	.17	.27
Skunk Cabbage, Natural, bales lb.	.12	.14
Snake Root, Canada Natural, bags lb.	.18	.19
Canada, Stripped, bags lb.	...	.50
Soap Bark lb.	.12	.13
Cut, 125-175 lb bags lb.	.07½	.08½
Crushed, 200 lb bbls lb.	.16	...
Powdered, bbls lb.	.12	.13
Spearmint Leaves, American, bales lb.	.22	.23
Spermaceti, blocks, cakes, cases lb.	.21	.23
Bulk lb.	.20	.22
Spikenard Root, bags lb.	.08	.09
Squaw Vine, bales lb.	.12	.13
Squills, White lb.	.05	.06
Powdered, bulk lb.	.16	.18
Stavesacre Seed, bags lb.	.13	.14
Stillingia Root, bags lb.	.07½	.08
Stone Root, bags lb.	.07	.08
St. Ignatius Beans, bags lb.	...	Nom.
St. John's Bread, bags lb.	...	.09
STRAMONIUM LEAVES, bales lb.	.09	.10
Seed, bags lb.	.07½	...
Strophanthus Seed, Kombe, bags lb.	1.80	2.00
Styrax Liquid, Artificial lb.	.26	.35
Genuine, USP lb.	.38	.43
Sunflower Seed, bags Calif. lb.	.04½	.05
South American, bags lb.	.07	.07½
Tamarinds, bbls lb.	.05	.06
Kegs keg	3.75	3.85
Tansy, Herb, bales lb.	.12	.13
Thus Gum, 280 lb bbls lb.	.07½	.16½
THYME, Spanish, bales lb.	.06	.07
French, bales lb.	.05¾	.06½
Tonga Root, bundles lb.	.25	.26
Bark, bundles lb.	.20	.21
Tonka Beans, Angostura Cases	1.50	1.60
Para cases lb.	.70	.75
Surinam cases lb.	.75	.80
Tragacanth Gum, No 1, 100 lb. cases lb.	1.05	1.10
No. 2 lb.	.85	.90
No. 3 lb.	.65	.75
Powdered, 50 lb boxes lb.	.70	.75
Turkish cases lb.	.45	.80
Turmeric Root Madras, bags lb.	.06	.06½
Aleppy bags lb.	.05½	.06
Powdered lb.	.11	.13
China bags lb.	.11	.12
Turpentine Venice True, 80 lb cases lb.	.32	.40
Artificial, 80 lb cases lb.	.17	.18
Uva Ursi Leaves, bales lb.	.05	.05½
Valerian Root, Belgium bags lb	.09	.10
VANILLA BEANS, Mexican, whole, cases lb.	3.75	4.25
Cuts, cases lb.	2.50	2.65
Bourbon, cases lb.	.90	1.40
Vetivert Root, 100 lb bags lb.	.23	...
Violet Flowers, bags lb.	.80	.85
Wahoo Bark of Root, bags lb.	.32	.33
Bark of Tree, bags lb.	.17	.18
White Pine Bark, Roseed, bags lb.	.06	.08
White Poplar Bark, bags lb.	.06	.07½
Wild Cherry Bark, Natural thin, Green lb.	.06	.07
Rossed bales lb.	.09	.10
Thick Rossed, bales lb.	.04	.05
Wild Indigo Root, bags lb.	.09	.10
Willow Bark, bags lb.	.05	.05½
White, bags lb.	.15	...
Witch Hazel Bark, bags lb.	.05	.06
Leaves, bales lb.	.06	.07
Wormseed, American, bags lb.	.05½	.06
Wormwood, Herb, Imp., bales lb.	.08	.08¼
Yellow Dock Root, bags lb.	.07	.08
Yerba Mate, bags lb.	.14	.16
Santa, bags lb.	.07½	.08½

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